

the Portable Companion™

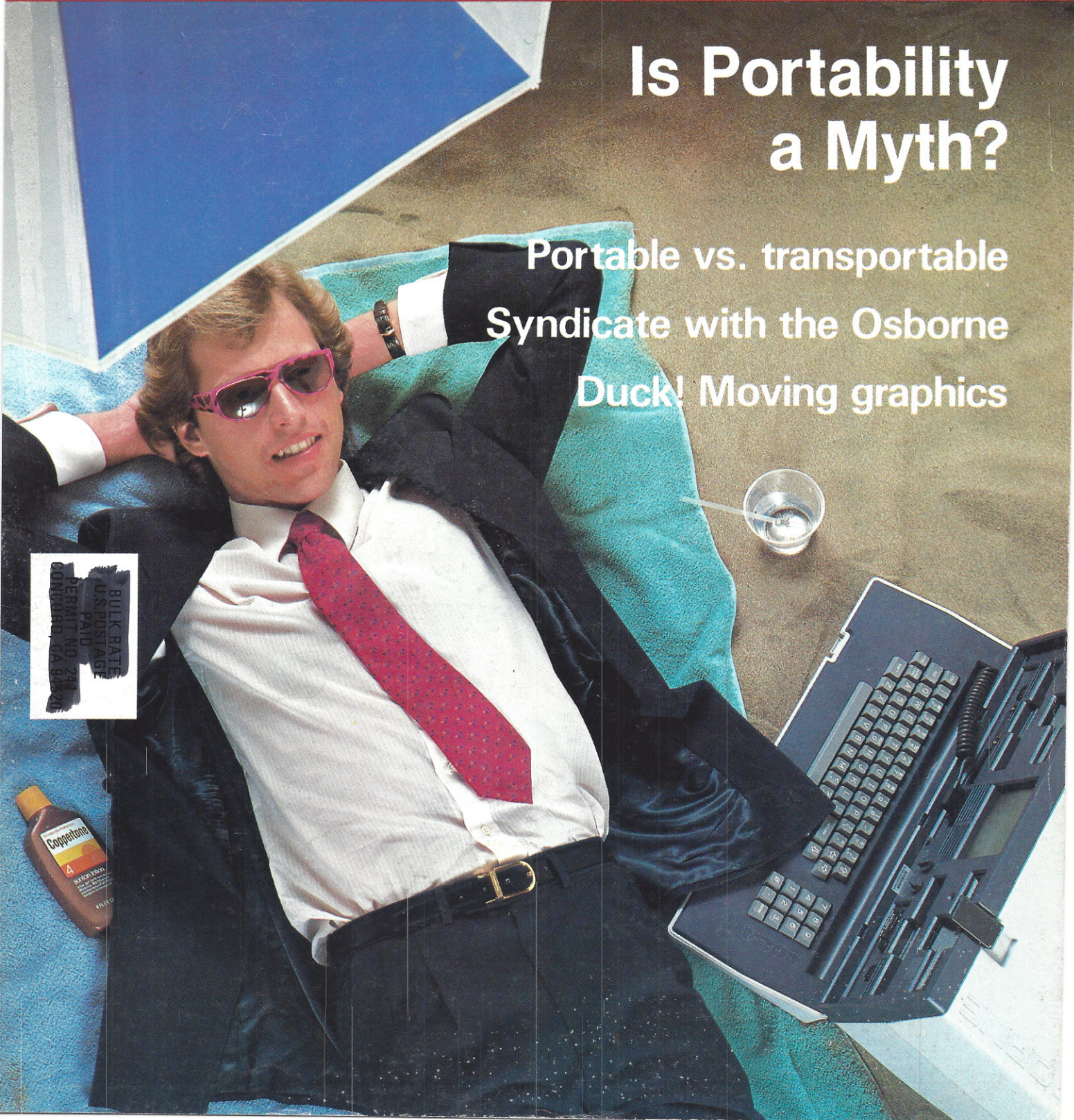
For Osborne Computer Users

April/May 1983

USA \$2.95

Is Portability a Myth?

Portable vs. transportable
Syndicate with the Osborne
Duck! Moving graphics



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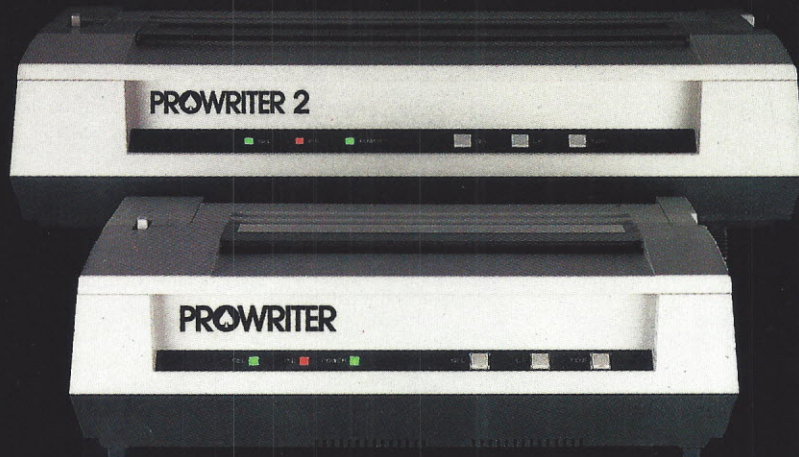
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THE PRO'S.

The Prowriters: business printers—and more. The “more” is a dot-matrix process with more dots. It gives you denser, correspondence quality copy (as opposed to business quality copy, which looks like a bad job of spray-painting).

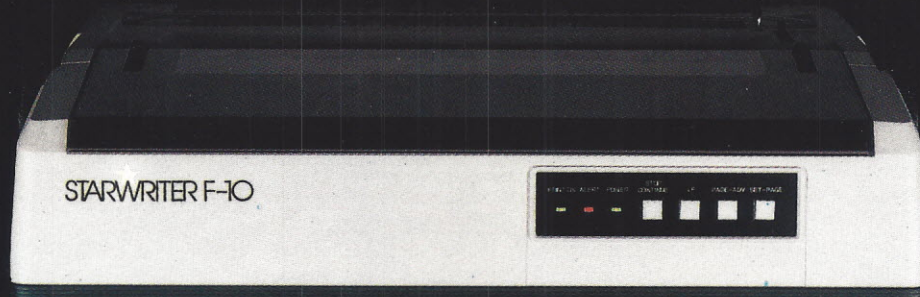
Prowriter: 120 cps. 80 columns dot matrix compressable to 136. 10" carriage. Parallel or serial interface.

Prowriter 2: Same as Prowriter, except 15" carriage allows full 136 columns in normal print mode. Parallel or serial interface.



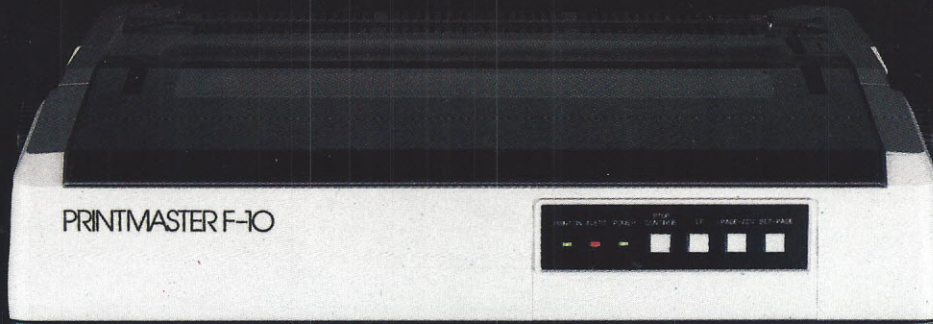
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BASIC VS. JRT PASCAL:

A NO-HOLDS-BARRED COMPARISON.

EASE-OF-USE By dividing programs into modules, JRT Pascal makes even very complex programs—of nearly any size—a breeze to manage. Pascal code is *self-documenting*; program sections are identified by meaningful names, not line numbers. Error messages are verbal, not number codes. JRT offers 12 data types (to Basic's 2 or 3), and it has both regular and hex numbers.

POWER For power—the ability to write better, clearer programs, faster—Pascal is the run-away winner. Example: JRT simplifies programming by accomplishing complicated operations (for Basic) with one command:

Basic	JRT Pascal
IF A\$ = "V" OR A\$ = "W" OR A\$ = "X" OR A\$ = "Y" OR A\$ = "Z" THEN...	IF A IN ['V'..'Z'] THEN...

FLEXIBILITY JRT's wide variety of data types reduces programming restrictions. And the data types are not all fixed in size. There are 3 *looping statements* (Basic has 1). With JRT, very large programs can be created and run, because program modules can be spread over many diskettes. Common modules can be used for several programs. Basic generally limits strings to 255 bytes; JRT strings go up to 64K.

EFFICIENCY Whereas Basic relies on a static, inefficient memory map to allocate storage, JRT's *dynamic storage* fills every available main storage area; there's no waste. With Basic, sub-routine modules must be linked together; with JRT, they can be linked—but don't have to be. JRT's more powerful commands run faster; typically, you'll write Pascal programs 3 to 10 times faster than in Basic. *Exclusive:* JRT lets you directly access the CP/M* operating system for better total system control.

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Features	Basic	JRT Pascal
Structured programs	No	Yes
Separate compiled modules	"Chaining"	Structured procedures with auto-loading & purging
Arithmetic precision	Usually 6 or 7 digits	14 digits
Indexed files	No	Yes
Maximum string size	255 characters	64,000 characters
Loop statements	1	3
Data types	Usually 2 or 3	12
CASE statement	No	Yes
Introduced	1965	1980
Price	???	\$29.95!

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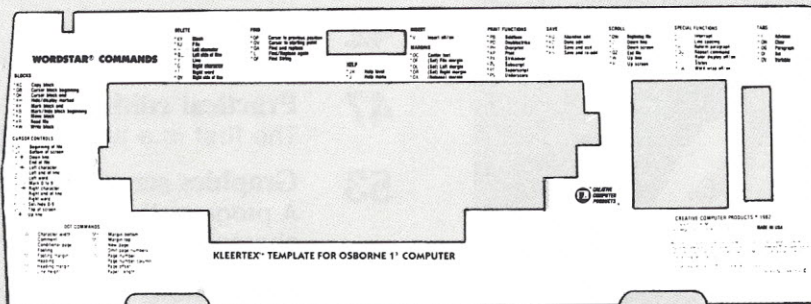
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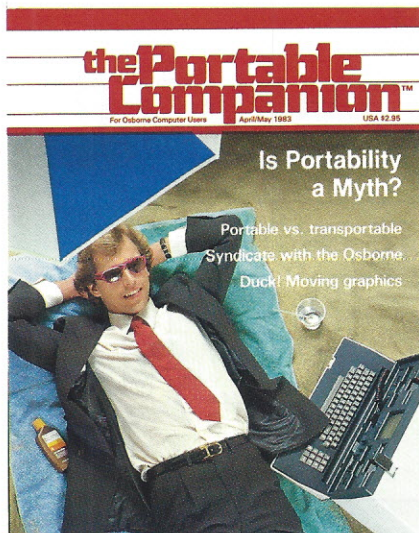
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Writer Peter Aaron squelches the portability controversy currently being bantered about in the industry press in a roguish essay. Page 32



The Osborne 1 battles it out at a recent chess tournament, ending up the micro-victor. Page 59



Duck! Moving graphics . . .
See page 42

FEATURES

- 32 Portable, transportable or ergonomic backache?**
A whimsical essay on the "portability" brouhaha
- 34 Syndicating with your Osborne**
A successful freelance writer points out the value of syndicating your writing via the computer
- 42 Duck** Intermediate
A moving graphics game and challenge for our readers
- 47 Practical editing: Part I** Novice
The first in a two-part series on editing a manuscript
- 53 Graphics screenwriting** Intermediate
A program that writes the Osborne's graphic characters to the screen
- 59 Confessions of an armchair general**
Osborne triumphs at chess tournament
- 61 Technical tips** Novice to Advanced
A round-up of some of the technical questions our readers may be scratching their heads over
- 66 I/O, I/O - Part III** Intermediate
The last in a series of articles on modifying WordStar and interfacing the Osborne to printers
- 74 Saving Your ASCII** Intermediate
Recovering lost WordStar and MBASIC files can be a snap

USER GROUPS

- 76 USER GROUP UPDATE**
- 79 HELPFUL HINTS FOR CP/M AND PIP.HLP**
- 82 WORDSTAR/MAILMERGE TIPS**
- 83 INTEGRATING SUPERCALC FILES WITH WORDSTAR FILES**
- 84 BATTERY-POWERED USE OF THE OSBORNE 1**

DEPARTMENTS

- 9 START UP**
- 11 ADAM OSBORNE**
- 15 LETTERS**
- 20 WIZARD OF OSBORNE**
- 86 NEW PRODUCTS**
- 92 THE PROCESSED WORD**
- 98 CALCAIDS**
- 100 INSIDE/OUTSIDE OSBORNE**
- 102 dBASICS**
- 106 WHOOPS**
- 109 PUZZLER**
- 111 NEXT TIME**
- 112 SOURCES**



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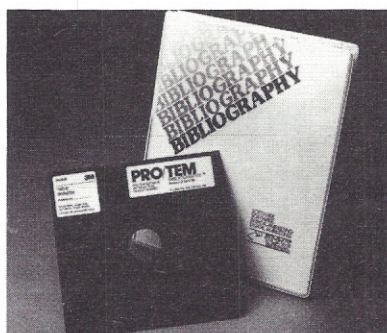
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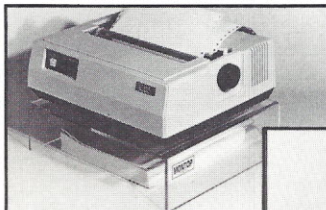


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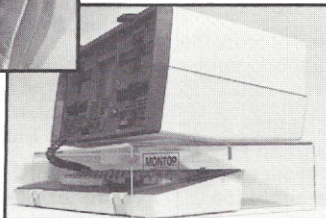
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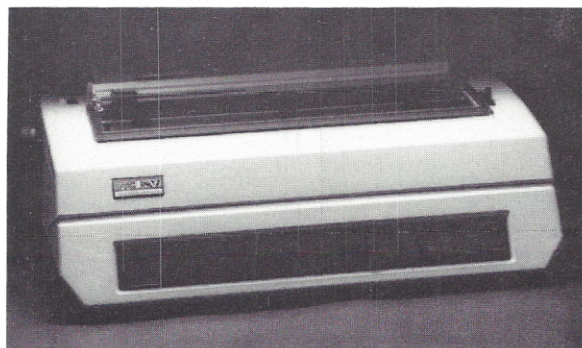
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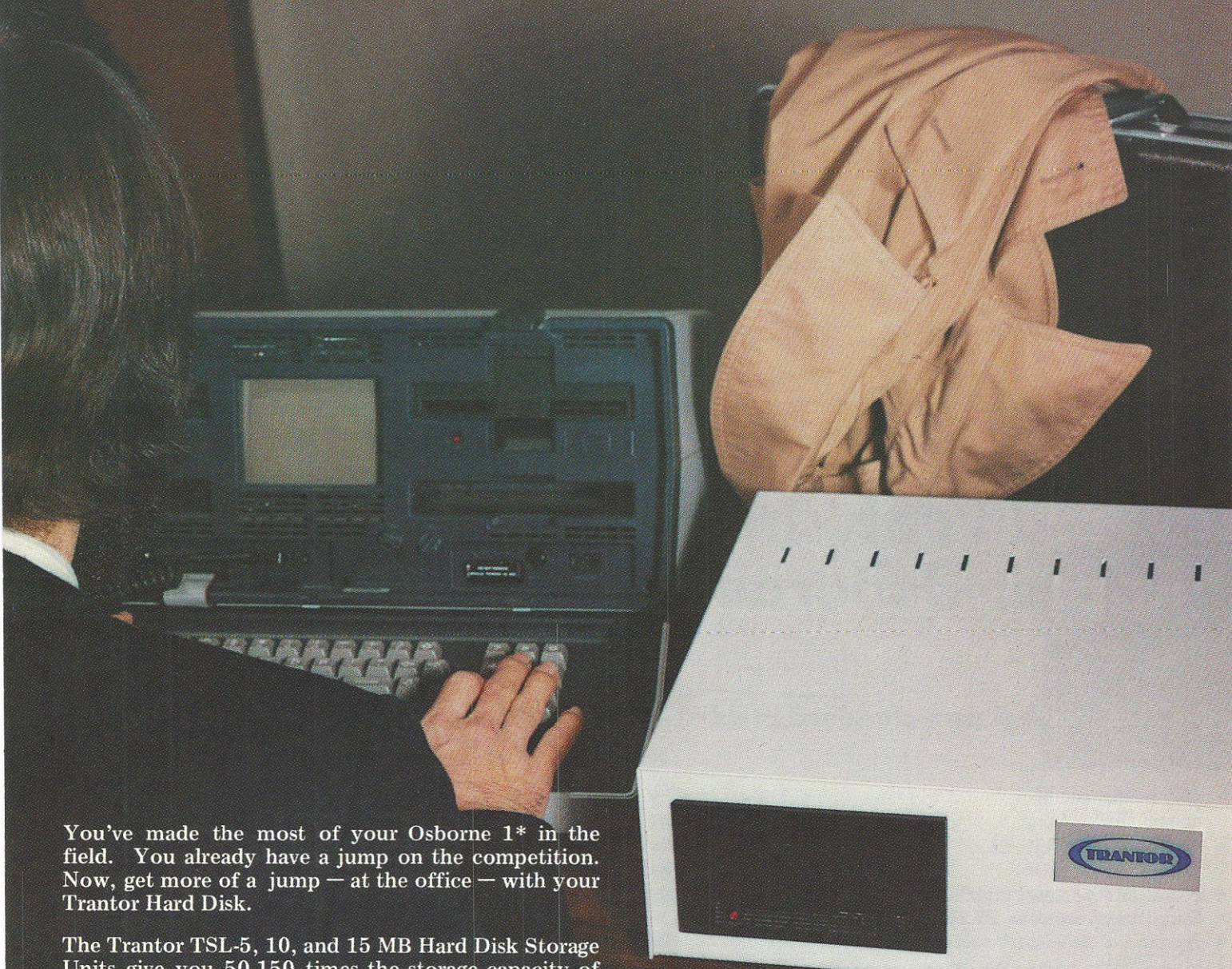


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Start Up

The Portable Companion wraps up its first year in publication with this issue. In June, the *Companion* presents a new face and debuts as a monthly; we're smoothing out the wrinkles in our design without changing the structure or emphasis of the magazine. We hope our new face-lift makes the magazine friendlier and easier to fathom. By adopting a monthly publication cycle, we can provide timely information and lots more of it.

Thom Hogan, publisher and Wizard extraordinaire, took a leave of absence from OCC and the magazine as of March 1. His computer magic and insightful writing will be missed. Brad Baldwin takes over the Wizard's column, continuing to lead you out of your technical snafus.

Adam Osborne's column, *From the Fountainhead*, becomes simply "Adam Osborne" with this issue. *From the Fountainhead* was originally conceived to present an outsider's view of the computer industry. Now as the owner of a computer manufacturing company, the gadfly feels he should stick to answering the hard questions about OCC. If you have a query or concern about OCC's philosophies, or its conduct in the market place, address it to *The Portable Companion* and we will pass it on to Dr. Osborne.

The *Companion's* editorial calendar for the next year emphasizes future applications for the Osborne. We'll explore the creative potential of these "bloodless little wizards," and provide insight into their expanding capabilities. The growth of microcomputers has generated prolific experimentation and immense public curiosity. We'll keep you posted on the latest software developments—from games to business packages—available for the Osborne. As hardware innovations become more reliable and affordable, we'll provide the details you need to expand your system wisely.

The magazine will continue to speak to beginners and experts alike. We realize the frustrations inherent in those first few months at the keyboard and the staff will do its best to debug the learning process. For the sophisticated reader we'll feature articles and programs tantalizing the most artful of computerists.

So, keep us around. We may prove to be the most helpful companion you ever discovered.

Jackie Rae
Editor

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Adam Osborne

Tackling the tough problems

Adam Osborne

A number of readers had specific questions that were so similar I decided to answer them generally. This is something I plan to do in future issues of *The Portable Companion*, when there are clearly identifiable topics on the minds of many Osborne owners.

The most controversy surrounded our *dBASE II* free offer. Why did we do it?

We answered that one last time: To meet the competition. This time the question is what did you do for the existing customer base? Did you try to get *dBase II* free for them as well?

Yes we did; and with no success. Frankly, I don't think it would have helped if we had been successful. Then everyone who had bought *dBase II* at full price would be coming back for something free, now that other people had gotten the same software package cheaper by waiting. I can just imagine the irate letters hitting my desk, written by people who had paid full price for *dBase II* in the one or two weeks preceding a free offer. We tried and failed to get a special *dBase II* offer for existing Osborne 1 owners, and frankly, I think in the long run we are better off having failed.

Those of you who are not familiar with the computer industry probably do not understand how quickly products and perceived values change. It is a "dog eat dog world" out here, and we plan to be one of the survivors.

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Does that mean that you should postpone buying a microcomputer? Perhaps, but you had better be prepared to wait until the year 2000 and beyond, because any time you buy a microcomputer you can expect a better deal to be available later.

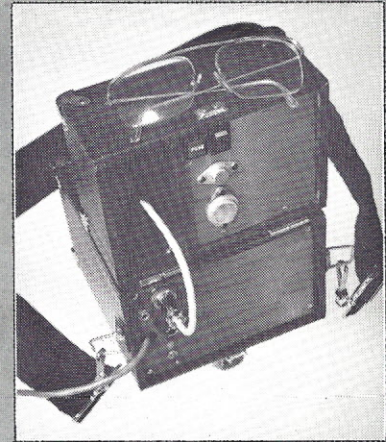
We did attempt to do something for our existing customer base by getting a special offer on *Personal PEARL* for people buying COMM-PAC.

The next most frequently asked question dealt with the amount of support we are giving our dealers, and the innumerable slippages in shipments of hardware options and software.

What can I say? We are doing our best but because of our rapid growth rate, we sometimes slip. Delays have been caused by bad components at incoming quality assurance inspection, by programs that were delivered to us with bugs, etc. I could give you the full catalog of excuses, but the answer you would give me is obvious—there should be no need for these excuses. You are right. Frankly, when you look at what we have done right, the mistakes are really quite small in comparison. Nevertheless, we hope to do everything right in the future. (Don't we all?)

One of the supposedly unavailable items is our *Technical Manual*, which

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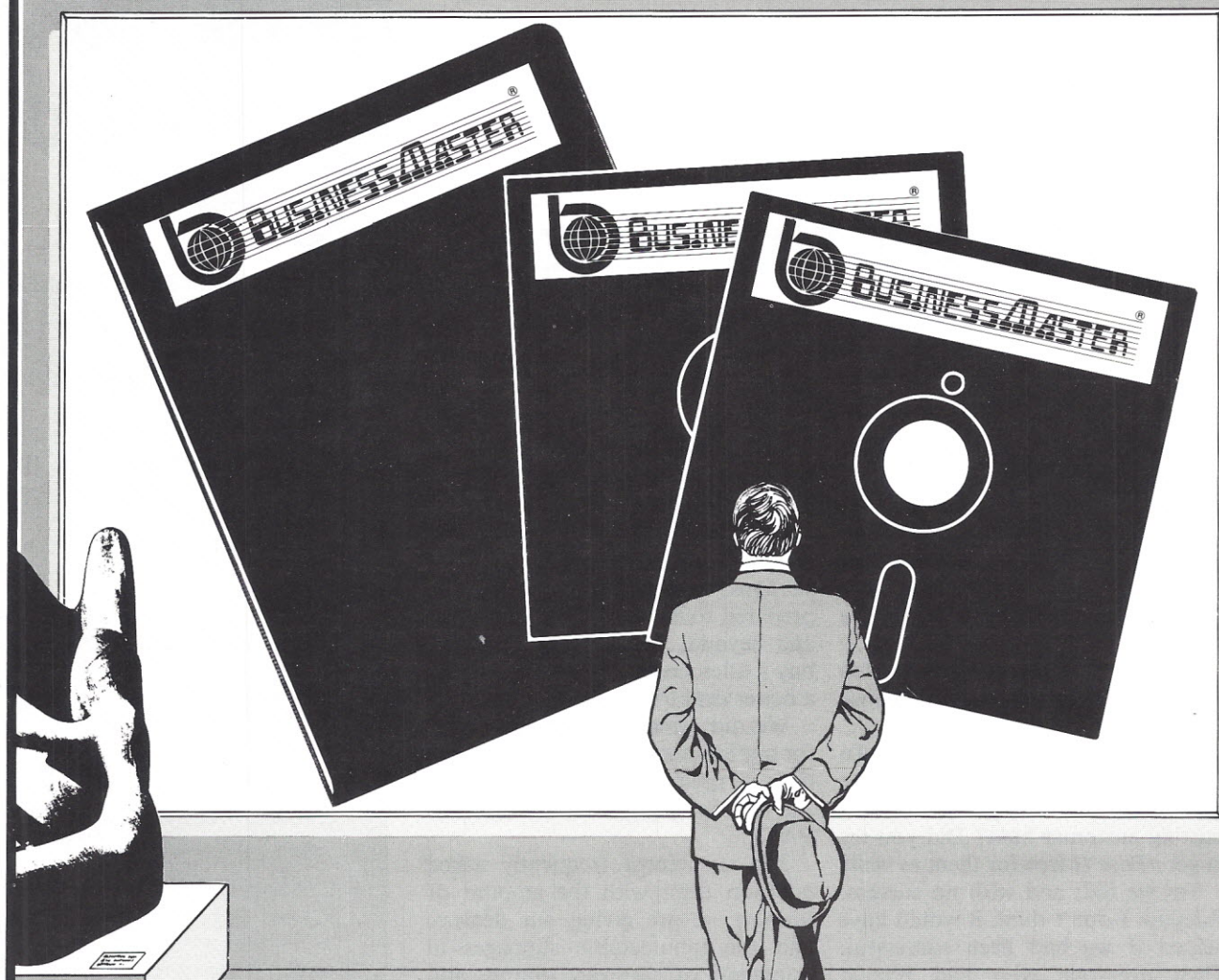
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Adam Osborne

"First and foremost, our commitment to industry standards is total. This, in my opinion, is not a question of philosophy, it is a question of survival."

you need if you want to customize your Osborne 1 for any special application. One or two readers have gone so far as to claim that we are discouraging any such customization. You are wrong. The information is readily available for you to do anything you want to your Osborne 1. Unfortunately, the *Technical Manual* is a slow moving item, which most stores do not carry and many do not even know about. It costs \$50 and can be obtained by placing an order with your local dealer.

In order to avoid our past sins of telling you about products and delivering them months later, I will no longer talk about a product before it is available. However, I will tell you some of our guiding philosophies when it comes to designing new products.

First and foremost, our commitment to industry standards is total. This, in my opinion, is not a question of philosophy, it is a question of survival.

To illustrate, there are currently two video cassette formats: VHS and Beta. Sony threw its weight behind its own format, Beta, and is probably losing. There are a number of other video cassette formats available, including one proposed by the giant Dutch company, Philips. But they

have not made it. In all probability, there will ultimately be just one standard: VHS.

And as the microcomputer industry moves toward consumer product status, the same logic will relentlessly apply: *De facto* standards will occur. They may or may not relate to what is technically the best. But that is irrelevant. Providing the standard gives customers what they perceive as necessary, they are adequate and will dominate.

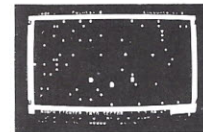
We believe that CP/M and Z80 will be the long-term 8 bit standard. We believe that IBM will set the 16 bit standard. All other microcomputer manufacturers have the option of adopting these standards or eventually going out of business.

It is important that OCC continue to be a leader by introducing new products. However, new products must be upwardly compatible with old products. You should be able to take your existing programs and data and run them on the new product, either directly or following an elementary conversion process. Nothing could be more foolish than to come out with new products that are incompatible with the old ones.

As time goes by, the quest for manufacturing excellence will become more and more intense. In order to survive we will have to build microcomputers that are as reliable as can possibly be achieved. The industry is booming because microcomputers have such an enormous economic imperative. One individual with a microcomputer can probably do the work of three or four individuals without. For the next few years, our whole economy will have to adjust to this new work pattern. President Reagan just stumbled on it. I wrote about it back in 1978, in my book *Running Wild—the Next Industrial Revolution*. You, the owners of microcomputers, found out about it ahead of the pack.

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Starbase Commander uses Osborne graphics to show 'Klang' alien battle cruisers maneuvering to attack your star-

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Both games, Starbase Commander and Robot Gladiators, run in fast machine language. The instructions are on the game disk.

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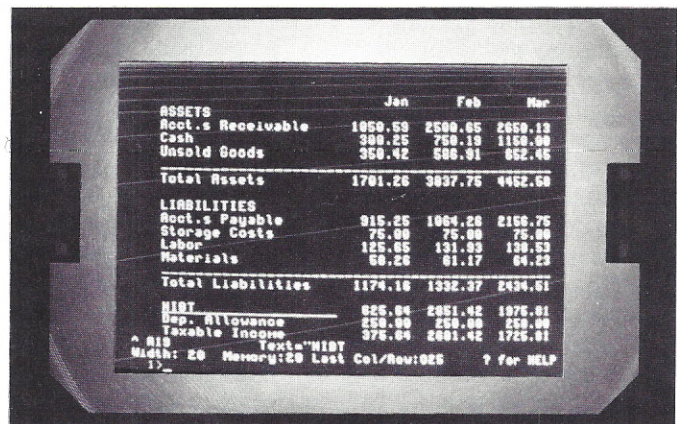
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Letters



Bugged About Bugs

At a recent user's group meeting the subject of programs published in *The Portable Companion* came up. One fellow commented that he had tried several of them and that none of them had worked. That seemed to be the general experience.

Would it be possible to have your articles checked for technical accuracy by having someone at Osborne actually try them before they are published? It would sure save your readers lots of wasted work.

Tom Vyse
SDOUG
San Diego, California

We are making every effort to improve the technical accuracy of the magazine. Brad Baldwin, who joined our staff in November, carefully reviews each program for bugs before it's accepted for publication. This, along with a new proofreading system, should significantly reduce the errors in the magazine.

One at a Time

Here's an MBASIC line re-numbering tip worth seeing the *Wizard of Osborne* about.

Neither the BASIC-80 reference manual that came with the early Osbornes nor the new Osborne 1 *User's Reference Guide* describe how

to re-number one program line at a time. In fact none of the Microsoft BASIC books I've read mention it.

RENUM's global powers result in overkill by renumbering a given line and all subsequent lines. Yet, in fact, MBASIC has a one-line-at-a-time re-numbering capability.

Here's an example of how to re-number line 150 as line 600:

Type **LIST 150** and line 150 will display.

Type **CTRL A** and an exclamation mark will be displayed.

Type **I** to turn on insert mode.

Type **600 (space)** followed by **RETURN**.

The line will now be duplicated at 150 and 600. If you wish, 150 can be deleted by typing 150 followed by **RETURN**.

I can't tell you how many hours this simple technique has saved me. I hope you'll pass it on to the other scarecrows, lions and tin men (and women) in Osborne land.

August E. Brunzman, III
Columbus, Ohio

More on Service

I enjoyed Adam Osborne's editorial about servicing problems in the Oct/Nov issue. I would like to add that an additional challenge facing manufacturers is to provide service to their dealers. We consumers can be served by our dealers only as well as OCC serves them.

We had a very long wait for WORD-PAC and COMM-PAC at our Computerland store and our Osborne specialist still has not received any "official" notice of the software upgrade package mentioned in the Oct/Nov issue. To her, the upgrade doesn't exist if it isn't on Computerland's computer. Already the computer has become the problem and not the solution.

Tim Snyder
Glenside, Pennsylvania

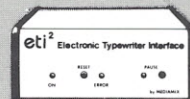
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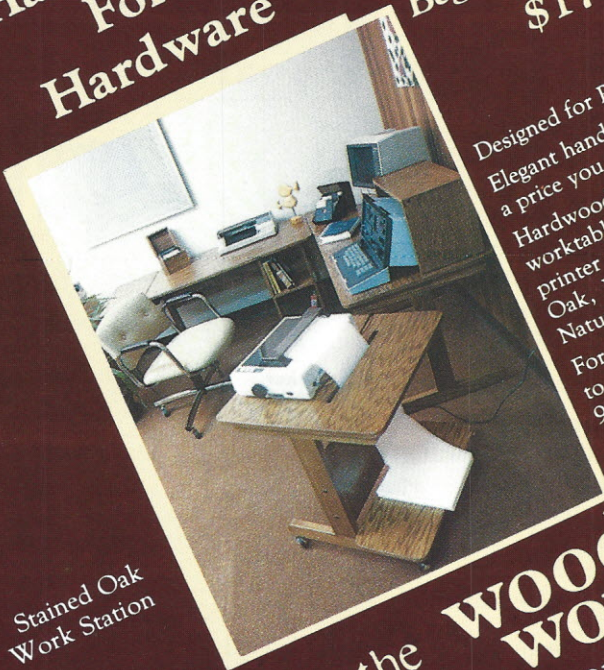
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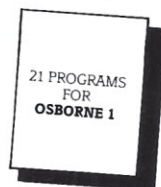
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Letters

What a Dump

Your Dec/Jan issue has an interesting article by Tim Kretschmar titled "Basic Screen Dump." I, like Tim, am not yet fully conversant in assembly language so I ended up with a similar solution to the dumping problem. I have also added a few features other readers may find useful.

Instead of using my screen dump as a subroutine to any program that might need a dump, I made a few changes and added it to the "A" diskette carrying MBASIC. It can then be called up at a moment's notice any time it's needed. The changes are quite simple.

Change line 1150 to **DELETE 1000-1150**. Save the program under a filename like "SCR.BAS." Set up a special function key for **MERGE "SCR.BAS."(RETURN)**. Set up another key for **RUN 1000 (RETURN)**.

Now, at any time, pressing the first key adds the screen dump program to the present program. Pressing the second key runs it. The last line is a self-destruct feature.

William Feingold
Fresh Meadows, New York

Osborne Junkie

I just discovered your excellent magazine. I read through it twice, slept with it for three days, pureed it in the blender and injected it into a major vein. It's outstanding.

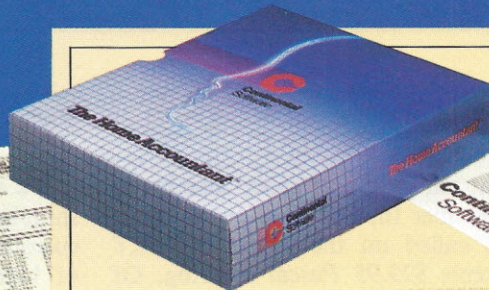
I understand the first issue is dead and gone while issues still remain of the second and third editions. Please ship these two to me by rocket sled.

If the first issue is ever reincarnated, please let us Osborne junkies know.

Rick Stanton
Hartwood, Virginia

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Letters

Tired of Waiting

At our local user group meeting of December 16, 1982, a show of hands was called on the subject of JRT systems \$29.95 *Pascal* offering. Of the 12 people present who had ordered JRT *Pascal*, only three actually received the product, yet 11 had already had their checks processed and returned.

I myself have been waiting over four months. My check was processed over three months ago. I have called the factory twice; once to be put on hold for 15 minutes, the second time I was told that my product had been shipped three weeks prior and that I should wait another week. At the end of an additional two week wait, I wrote the factory, and three weeks later wrote them again.

Since so many people share my experience with JRT Systems, I urge you to suspend their advertising privileges until they can show proof that they have caught up with their back orders.

Scott Rainey
OSBUG
Portland Oregon

We received the following letter from JRT Systems concerning the problem you've expressed in your letter. They are making a number of changes to resolve the problem and catch up with their backorders. If you still have not received your copy, we suggest that you ask for your money back. We promptly investigate complaints against advertisers in this magazine (as defined in our advertising disclaimer found next to the ad index in each issue). Yours was the only complaint received and JRT's response arrived almost immediately thereafter. For this reason, we have not taken you up on your suggestion to suspend their advertising privileges.

Staggering Backlog

We are experiencing delays in the shipping of JRT *Pascal* to our customers. I have received a number of letters from customers who are very concerned about this. Similar letters have been sent to the editors of the magazines in which JRT Systems advertises.

It has always been our policy to immediately cancel any order on request or make an immediate refund if payment has been processed and shipment not yet made.

As of today we have shipped 10,000 *Pascals* and have 7000 orders on backlog. About 6000 of those are less than six weeks old. A six to eight week shipping delay is not unprecedented in the computer industry, but it is not acceptable to JRT Systems.

In the past two weeks the shipping staff has grown from one to four full-time people. In this same period we completed installation of a sophisticated set of new shipping programs which automate, log and validate every aspect of the shipping operation. Last week we exceeded 500 *Pascal* shipments per day. With our new system we can exceed 1000 per day.

We still have delays in obtaining copied diskettes rapidly enough, especially in 5¼ inch format. Changes planned for the near future will eliminate this problem.

In short, the delay in shipping JRT *Pascal* is due to the staggering sales growth. We are moving as fast as possible to expand production capacity.

J. R. Tyson
President
JRT Systems



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*the Wizard
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Step-by-Step

Brad Baldwin

According to a *Portable Companion* survey, the Epson MX-80 is the most widely-used printer among Osborne users. We believe it.

It seems half the mail sent to the *Wizard* column and *Letters to the Editor* concerned the Epson *Grafrax Plus* and its inadequacy in performing superscripts and subscripts. It seems appropriate then to solve that problem first.

The Epson uses a special vertically compressed character for scripts. There is no need for half-line feeds or incremental spacing. Accessing this character turns double striking and uni-directional printing on—and it remains on even after exiting from the script mode. A rather annoying problem. A bigger problem is that the Epson manual listed the incorrect hex codes for super/subscripts—an error that is difficult to catch if you are not versed in hexadecimal numbering systems.

Here's one way to patch *WordStar* for script capability. Use *WordStar's* INSTALL program, described in your Osborne *User Reference Guide*. This issue also describes half-line feeds in *I/O, I/O, Part Three*.

ROLUP: 03 1B 53 00 Superscript (^PT)

ROLDOW: 03 1B 53 01 Subscript (^PV)

USR3: 05 1B 48 1B 55 00 Scripts off (^PE)

USR3: turns double strike off and bi-directional printing on. The USR4: patch area is infringed upon by USR3: USR4: cannot be used. Use the ^PE in addition to the ^T

or ^V to turn off scripts, e.g.:

This is a superscript ^T1 ^T ^E.

This is a subscript ^V2 ^V ^E.

Q: When I place my 12" Zenith ZVM 121 monitor on top of my Osborne 1 the COPY.COM program crashes (it fails to read the inside tracks on Drive A). Moving the monitor away from the computer by three feet results in successful COPY.COM operations. I am wondering if this is a problem encountered with all monitors, some monitors, all Zeniths, or just mine? Do you recommend installing home-made shielding? I should also point out that my Osborne 1 was upgraded from ROM 1.2 to ROM 1.3 and that's when the problems began.

A: This is not the first we have heard of monitors affecting computer performance; radio frequency emissions (RFI) from the monitor are interfering with the disk drive electronics.

It is possible that your dealer accidentally disconnected the grounding wire attached to the disk drive shield while performing the upgrade. Also, make sure you are using a shielded cable for your monitor and not just an RCA audio cable.

Recently, an extra shield was installed in the computer to keep the electronic noise emitted by many of the lower-cost monitors from affecting the performance of the machine. We suggest placing a thin metal sheet underneath the monitor when it is

used on top of the Osborne. Also, don't set your diskettes on the monitor—they may be erased.

Q: I just bought a \$395 serial Heathkit H-14 dot-matrix printer. What does it take to get this thing going? Nothing seems to work.

A: We contacted Leo F. Hood of Hood Technical Services and asked him to describe his interfacing adventures with the H-14. He found that the H-14's "Request To Send" signal is opposite in polarity to the signal that will be accepted by the Osborne as Data Terminal Ready.

Mr. Hood designed a hardware modification to the H-14 that provided an inverted Request To Send Signal on pin 4 of the RS-232 connector. That signal was wired to pin 15 on the printer side and connected to pin 20 on the Osborne 1 side. Pins 1, 3 and 7 of the H-14 were connected to corresponding pins on Ozzie's RS-232 port. Mr. Hood says that Heathkit does provide a set of instructions detailing the process of inverting the RTS signal with the printer, but he found his modification didn't sacrifice other signal levels while Heathkit's did. Mr. Hood is willing to correspond with anyone about the H-14 if you send him a stamped and self-addressed envelope.

Hood Technical Services
Leo F. Hood
206 Cecil Avenue
West Lawn, PA 19609

Q: My AMCALL diskette won't start itself. I have to first load WordStar or CP/M and get the A>. Then, I switch diskettes and type AUTOST or AMCALL. Is this normal? Also, can I modify the CP/M diskette so that it will skip the help menu and go directly to the A>?

A: The AMCALL diskette—and all other Osborne Approved Software—does not come with CP/M system tracks; it must be SYSGENed. (See

the instructions found in the AMCALL or Osborne User Reference Guide.)

To go directly to the A> on your CP/M diskette, or any other diskette, erase the AUTOST.COM file: A>ERA AUTOST.COM.

Q: My SUBMIT command seldom works correctly. This seems to be fairly common to CP/M machines. When I SUBMIT a file, the appropriate drives whirl and grind but nothing happens. What gives?

A: SUBMIT.COM (CP/M batch utility program) is somewhat tricky to use. A common error is to execute SUBMIT on the B drive and not on the A drive. We'll explain.

SUBMIT accepts a command file written with the "N" option in WordStar and builds a temporary \$\$\$SUB file. After the SUBMIT program ends, a WARM BOOT is performed and the \$\$\$SUB file's command lines are automatically and immediately executed. Here is where the problems begin, because if you are not on the A drive when running SUBMIT, the \$\$\$SUB file is created on the currently logged disk. A warm boot jumps over to the A drive, leaving you high and dry. Only SUBMIT needs to be on the A drive, your command file may be placed on either the A or B drives.

To test the submit function, first use simple commands without variables, like the following directory checker:

```
DIR B:
DIR A:
XDIR A:
```

The following SUBMIT program (TEST.SUB) compiles and runs a CBASIC program, then erases any back-up files on the A drive, PIPs over the .BAS and .INT files (if they were created on B), and finally performs an extended directory check on both diskettes. The format to execute

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this sequence might look like this:
A>SUBMIT TEST B WIZ:

```
TYPE $1:$2.BAS
CBAS2 $1:$2
CRUN2 $1:$2
ERA *.BAK
PIP A:=B:$2.*
XDIR A:
XDIR B:
```

A few of you have indicated that your user group bulletin board has a version of SUBMIT that creates the \$\$\$\$.SUB file automatically on drive A, avoiding the problem outlined above. This is easy to do—we describe how in the "Technical Tips" article in this issue.

Q: I'm trying to interface a Base 2 Model 800 printer to the RS232 port. So far, not one character has been printed. Base 2 Inc. has been out of business for some time now, so I hope you can help. I've enclosed a manual to aid you in your research.

A: Gee...thanks.

According to the manual, Base 2 uses just four pins: 3 (received data), 5 (clear to send), 7 (signal ground), and 20 (data terminal ready). In the margin next to the pin-outs for the printer you indicated that pin 2 from the Osborne is connected to pin 3 on the printer. Unless Base 2 made a mistake in their RS232 interface, or is considered to be a DCE device, you should connect pin 3 to pin 3. Also, connect 7 to 7 and 20 to 20.

To prevent buffer overflow, the manual says that the status line may be selected to pin 5 or 20 through DIP switches. Turn switch 7 OFF and 8 ON to choose pin 20, but check various combinations, as switches are sometimes installed backwards (ON is OFF and OFF is ON).

One more point. The printer is supposed to set the status line to "busy" only when it's printing; perhaps this signal is inverted in the Base 2, causing the Osborne to perceive it as

always busy. Most computer dealers have serial port checkers to analyze the status (high, low, data) of the various RS232 signals.

Q: While merge-printing an envelope file, the following warnings were noted on the screen:

```
.MB
*** Invalid variable name in .RV
command
*** Invalid dot command ignored
.PL
*** Invalid dot command ignored
.MT
*** Invalid dot command ignored
This is my command file list:
```

```
.OP
.PL
.MB
.MT
.DF DATAFYL
.RV #,NAME,COMPANY,etc
&NAME&
&COMPANY&
```

A: The pound sign (#) is an invalid variable, simply replace it with another label. The other dot commands are ignored because you forgot the numbers, e.g.: .PL 26, .MB 6, .MT 3.

Q: I earnestly require your assistance because I am bordering on the brink of insanity and if someone does not come to my rescue I will go over the edge.

My biggest problem is SuperCalc. I keep getting more numbers to the right of the decimal than I really need: I only want four.

I'm sending you a sample of the SuperCalc program so you can see the problem.

Some of the numbers in the sample are:

```
1.0545933333333
.03459333333333
```

A: Don't jump! You made a very simple mistake—some of your columns

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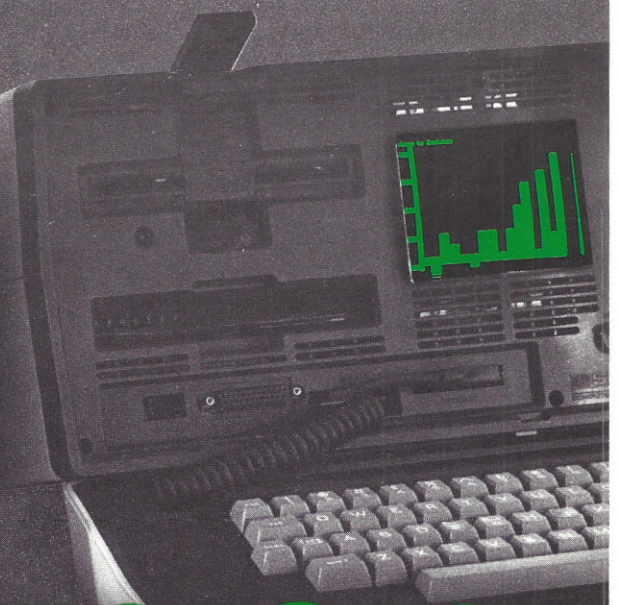
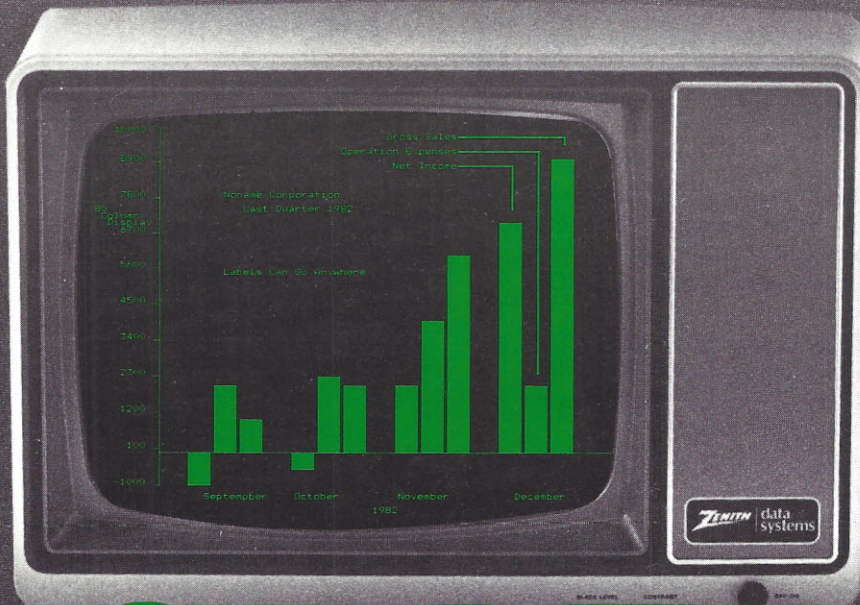
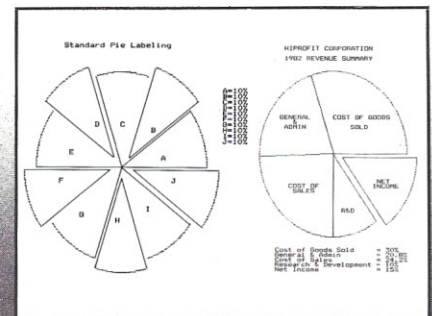
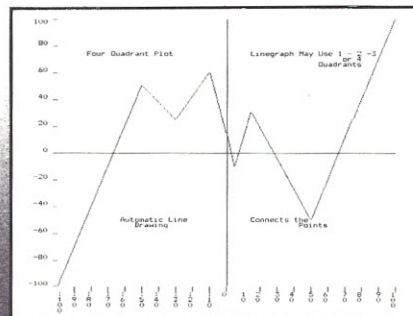
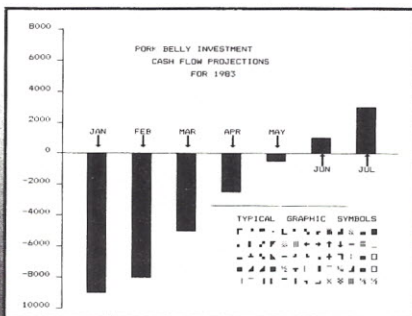
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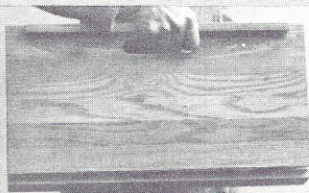
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are formatted for 16 characters causing the digit accuracy to expand. Try formatting your column to 10 units wide instead.

Reviewing your spreadsheet tells us you are dealing with dollar values, so you could use *SuperCalc's* dollar format (\$) to automatically round numbers off at 2 decimal places. However, this leads us to an interesting problem. Numbers that are rounded off in this manner are done so for visual display only, the memory still contains their proper values. When a total is performed on a column of dollar formatted numbers it is actually getting the values from memory, not from the display. Example:

	DISPLAY	MEMORY
A1	45.48	45.484
A2	32.27	32.2729
A3	5.06	5.0591
A5	82.82	82.8160

Note that 82.82 is not the sum of the display column of numbers, but reflects the rounded-off value of the memory column. If you can live with being a couple of pennies off, no problem. However, if your name is Arthur Andersen, CPA, then we had better come up with a solution to this dilemma, and here it is:

$\text{INT}((\text{cell}) * 100 + .5) / 100$
or $\text{INT}((\text{cell}) * 1000 + .05) / 1000$ for three decimal point accuracy.

This is a common programming trick used to round off numbers to two decimal place accuracy. Use it on the values A1, A2, and A3 to create display and memory values with two digit accuracy. For example, replicate the formula to cells B1, B2, and B3. Then do $\text{SUM}(B1:B3)$.

Q: I recently purchased an Osborne computer. Overall, I'm very happy with it. However, there seems to be a problem with my version of MBASIC concerning the CDBL double precision command. Check out this program:

```
10 DEFDBL N
20 NUM$ = ".9"
30 NUM = VAL(NUM$)
40 PRINT NUM
50 NUM$ = ".99"
60 NUM = VAL(NUM$)
70 PRINT NUM
```

.9

.990000000000000001

What's with the .990000000000000001?

A: If it makes you feel any better, we ran your program on our Ozzies and came up with the same result. We also ran it through an Altos with a different version of *MBASIC*, with the same result. Microsoft, the creators of *MBASIC*, obviously feel that a 1/10 quadrillionth error shouldn't hurt anyone, and we agree. To be fair, you did give us another example with a 1/2 millionth error (126.669998 instead of 126.67), so a discussion of this problem is in order.

MBASIC does not keep numbers in the same common Binary Coded Decimal (BCD) format that *CBASIC* uses. To save memory space and calculating time, Microsoft chose an alternate format. Unfortunately, a result of this decision is that numbers sometimes "overflow" the format, causing extremely small (.000001 or smaller) errors to accumulate. Computers are never perfectly accurate; we suggest that you always *force* the precision the computer uses as explained in the next paragraph.

Gary Cuevas, a contributing editor and *MBASIC* wiz, points out that you should use a rounding algorithm when dealing with dollars and cents. Interestingly enough, the formula is exactly the same as for the *SuperCalc* question above. For ease of repeated use, you may want to assign it to a user function key.

```
DEF FNA(Y) = INT(100*Y + .5)/100
PRINT FNA(Y)
```

Q: It may interest you to know that I have found what appears to be a bug in the *CBASIC* version 2.07 that was

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```
DIM SS$(20)
FOR I=1 TO 20
SS(I)="PRINTEST"
NEXT I
FOR J=1 TO 30
PRINT SS(J),
NEXT J
END
```

produces output similar to the following:

PRINTEST	PRINTEST	PRINTEST	P
RINTEST	PRINTEST	PRINTEST	P
RINTEST	PRINTEST	PRINTEST	P

The problem may, of course, be in my hardware or software, so I would appreciate knowing if you find this bug in other units.

A: This is not a bug.

When printing NUMERIC values that exceed the line width, the number is printed on the next line. STRING values—such as yours—are output until the line width is reached and then the remainder of the string is printed on the next line.

Q: I have encountered a problem in attempting to reconfigure CP/M on my Osborne. As distributed, my version of CP/M defines LST:=CRT:. I would like to change this to LST:=LPT:. I have attempted unsuccessfully to use SYSGEN, followed by either STAT or DDT, followed again by SYSGEN to effect this change. Could you please tell me how this may be accomplished?

A: A little background for our readers: Reconfiguring the IOBYTE list device for LPT: instead of CRT: changes it from serial to Centronics parallel.

Well, guess what. We have a handy program that performs this miraculous feat in about 10 seconds. It's called SETUP and is the Osborne configuration program. No need to worry about STAT, DDT, SYSGEN,

LST:=LPT: etc. See your *User Reference Guide* for details.

Q: I think I found a bug in *SuperCalc*. When moving the active cell by pressing the arrow key down, the display may jump erratically sideways and garbage may appear on the screen. Help!

A: Your "Auto Horizontal Scroll" is ON when it should be OFF. Run SETUP using the instructions found in your *User Guide*. (Don't forget to press the RESET button after SETUP is used to reconfigure a diskette.)

MISSING WIZARD

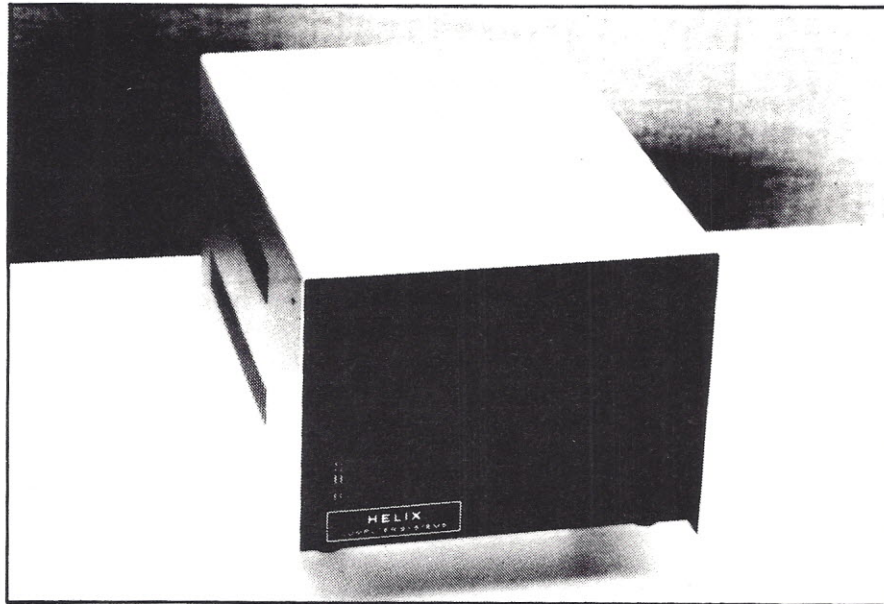
As of March 1, I am taking a leave of absence from Osborne Computer Corporation. Please address your future questions and inquiries to the appropriate department within Osborne. Questions for the Wizard should be addressed to Brad Baldwin. Best of luck with your computing.

—Thom Hogan

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Peter Aaron

Let's confront the scoffers and cynics right up front. They claim the Adam Osborne-inspired portable computer is a gimmick. How can he call these 26 pound, lead-bottomed sewing machines portable? He may even be in collusion with the American Society of Chiropractors, receiving a kickback for every patient who throws his back out transporting his portable computer.

You not only pay with your back, critics say, you pay with your eyes. Here's where the Osborne owner endures the umpteenth variation on the question, "Say, partner, how do you see that ensy-weensy screen? Man could go blind readin' that thing."

Let's take the last charge first and give our squinty-eyed colleagues their due. The characters on the Osborne five inch monitor are 60 percent smaller than the characters on a full-sized monitor. But the point is, they are big enough if you are sitting in front of the Osborne and not rubbernecking over someone else's shoulder. And the minor discomfort is more than compensated for by the portability.

"Really," the stuttering sluggards of stasis exclaim. "Even if we bought a portable computer, we would never move it." As William F. Buckley would say, there is no persuading the invincibly lazy. For these few, a handle on a computer only serves as a nagging reminder of their lumpish souls.



Why buy a portable computer? Well, when was the last time you wanted to move your desk at the office? If you don't mind the cacaphony of raucous laughter, snorting, belching, bells, and whistles that come rolling over your four foot partition wall, then I say, don't buy an Osborne.

I, for one, would rather expend a few calories moving my computer to a quieter area than listen to a gaggle of programmers jabber on about their latest string variable. If the noise still bothers me, I have the option of taking my office home.

Which brings us to the portable versus transportable controversy. In the industry press, the state-of-the-art translation for portable is now transportable. What's the difference?

Well, the knowing critic points out that a truly portable computer would be small and light enough for the average person to carry through an airport terminal without the arm sending a message to the brain, "I am about to fall off."

Here the critics have a stronger point. Carrying most portable computers across an airport terminal can be tough, even for the fully aerobicized. A fold-up luggage stroller is admittedly a blessing.

But this linguistic downgrade from portable to transportable can be misleading. When moving your computer from one office to the next, or from one room to the next, a portable computer is truly portable. You just can't pack up and move an Apple II with detached monitor, disk drives, modems and other peripherals with the same ease as a fully integrated portable computer.

Once you've trained yourself on a computer, and begun to funnel all your work through its keyboard, it's almost impossible to get by without it. If you write on a computer, as I do, you face acute writing phobia when you must revert to the scrivener's task of scratching pen over paper.

My Osborne saves me from ever facing that terrifying prospect again. No matter where I go, whether to my study at home, my company's office across the country, or even to the beach, I know I can bring my intelligent slave along.

Coupled with my modem, my computer gives me access to the mainframes at corporate headquarters as well as data bases, news services, and information networks anywhere in the world. And I am not locked in to working at my five by five plasterboard cell at the plant.

Which brings us to the real reason I like my Osborne: it's easier to sneak out of the office. Let's be frank. Not many American corporations have publicly accepted, and perhaps never will, that many of their employees can do their jobs

better at home than at the office. Yet the unofficial credo of business managers is, if the work gets done, we don't ask questions.

So many managers look the other way when their good employees sneak out early or come in late because they know they're working at home.

I am not suggesting that you can dispatch all your work while getting a tan at the beach. I am suggesting that you could do some of it. And the delicious freedom of knowing you could set up your office on a sun-splashed strand of Newport Beach can be enough to survive the office blues one more day.

Now if you want to sit shackled to your desk from eight to five for the next 40 years, I say, don't buy a portable computer. But if you want to stroll by your boss's office as you arrive for work at eleven o'clock, I suggest that you have a portable computer attached to one arm. 



Syndicating with your Osborne

Multiple and electronic submission of freelance articles

David Kline

We've all heard the testimonials. The plastic surgeon in Beverly Hills who writes, "how Osborne solved my billing system mess and prevented bankruptcy." Or, how about, "Bless you, Osborne, for saving our 400,000 acre family farm." And then, of course, there's the obligatory tax lawyer who writes in tearful gratitude to Osborne for putting his legal records back on track and getting the IRS off his back.

Not exactly "Queen for a Day" is it? Those people could have all bought IBM Display Writers out of their lunch money. I'd like to talk about one group of professionals who really need the Osborne. I mean, really need it bad. They're perhaps the most under-paid, unrewarded white collar group in America—far worse off than secretaries, by a long shot.

I'm talking about the freelance writer. Not the estimated three percent or so of freelancers who make a very good income. The other 97 percent. Nothing offers these poor souls as much hope of making a decent buck next year as the Osborne portable computer. Actually any computer will do. But freelancers tend to drift towards things like \$1 movie theaters and 1971 Volkswagens anyway. And the Osborne is nothing if not the Volkswagen of small computers.

Surprisingly, given their economic status, freelance writers actually hold a pivotal position in American journalism. With rare exceptions, it is the freelancer who reports first from the Nicaraguas, Vietnams, El Salvadors,

Afghanistans and other trouble spots around our globe. Likewise the freelancer has generally been in the vanguard of writers and commentators exploring such key social issues here at home as the environment, women's rights, and whether or not nuclear war is worth winning.

Why should the freelancer, though a journalistic success, be such an economic disaster? Simple: he or she is solitary, unorganized and plentiful in the extreme. So unless you're Norman Mailer, you need all the help you can get to survive as an independent, self-employed, freelance periodical writer in America.

That's where the Osborne comes in.

I own an agency for freelancers, Impact Features, which represents a very small group of very good writers. Impact acts as agent in soliciting article assignments and negotiating fees for these writers, and also syndicates their articles to about 40 major newspapers and regional magazines. We also run a small but active lecture service featuring journalists who can talk about the world's hottest trouble spots.

Whether you're an agency or a solitary writer, however, the theory is basically the same: if they're only going to pay you a tenth of what they should (and as someone who respects his own work, you should negotiate that up to a third), you'll just have to sell it ten times. Or become ten times more productive (without becoming a hack writer).

The only practical way to do that is

to invest in a computer, preferably a cheap but powerful one like the Osborne.

I won't go into all the everyday details of how the Osborne helps me run the business itself. I'll concentrate instead on some of the many aspects of writing and submitting articles, and especially on the question of syndication, which is the chief income-generating function that the computer can perform for the writer. I'll also describe how you can submit your stories electronically to some publications. But first a few words about why a computer is so valuable to me simply in terms of everyday writing.

In my own case, what decided me on getting the Osborne was a log I kept of how I spent my time writing: 40% writing, 60% re-typing. I don't work from outlines; instead I create and plan and write and then re-create and re-write at the keyboard. On a typewriter, that's a lot of wasted work. On a computer, the spontaneous or even undisciplined writer like myself (I prefer the label "intuitive") can really soar.

It's not simply a matter of increased productivity. I also think this machine encourages me to be more creative, and I'm one of those who for years looked down his nose at the very notion of cluttering a writer's insights with electronics. Specifically, the computer makes it easy to experiment, to put down flashes of style or insight, because I know how easy it is to alter what I write, to make either substantial or subtle changes in the article.

Usually before one writes an article, of course, one has to get an assignment from a magazine. So as not to spend a whole year trying to land an assignment—querying first one magazine, then another—writers must send out what are called "multiple-submission" queries to a number of potential magazine buyers. One problem, however, is that editors

often puff up in florid outrage when they receive Xeroxed queries. Solution? Punch them out on a letter-quality printer.

Furthermore, with the computer, one can also better target each version of a multiple-submission query to each magazine's style. A general story idea on the likely impact of personal computers on society, for instance, (hey, that's an idea!) would take a different shape and tone depending on whether it was being written for the *New York Times Magazine*, *Esquire*, *Playboy* or the *Atlantic*. With a computer, one can maintain a skeleton proposal on diskette, and flesh in each new version to match each publication's identity.

The Ins and Outs of Syndication

Now we come to syndication, the task of "selling it 10 times" mentioned earlier. Since we're talking about syndicating an article across the country, it is assumed that the article is of national scope or interest. At Impact, I choose the likely markets and write brief letters to the appropriate editors at each publication, explaining the significance of the story and the qualifications of the writer, and offering information like the availability of photos, etc. If the piece is being sent both to Sunday magazine sections as well as daily news sections, then different versions of the same article will be written and edited—a shorter, newsier version for the dailies; and a longer, more colorful, in-depth piece for the Sunday sections.

Before purchasing the Osborne, it took between two-and-a-half and three days to complete an average syndication. Now, with *WordStar's* editing abilities, the printer's speed in punching out a fresh, clean document in minutes, and *MailMerge's* capacity to generate a large number of "personalized" letters from a single-letter-document, it takes a few hours at



"They're perhaps the most under-paid, unrewarded white collar group in America—far worse off than secretaries. . . ."



If they're only going to pay you a tenth of what they should . . . you'll just have to sell it ten times."

most. The articles themselves may be either Xeroxed or originally printed.

In performing the letter-writing and addressing function, the only weakness of *MailMerge* is its inability to select out certain names and addresses within a larger mailing list. This would be useful because often a syndicated article will be sent to some publications and not others. Thus, using only *MailMerge*, I have to either continually create specialized lists out of larger ones or else undertake some unnecessary printing that winds up in the round file. I understand that the *Mailman* program as well as other CP/M data base and mail list software solves this problem.

New software just coming out—such as *Write Track*, (Gradan Consulting, Thousand Oaks, CA.) which does just what it says and tracks the progress of queries, manuscripts, or articles in syndication—makes multiple marketing by the individual writer easier still and thus more profitable.

The bottom line on the value of computer-aided syndication? When I bought the Osborne in January of 1982, I expected to have it paid for in nine to twelve months. Syndicating with the Osborne allowed me to recoup the expense of the machine in a few weeks.

Electronic Submission of Articles

Unbeknownst to most journalists, computers also open up a broad new avenue for independent writers both in syndicating and in reporting itself. In fact, the Osborne and similar machines may even spark a radical change in the ability of freelancers to actually compete with staff and wire-service reporters in what was formerly their exclusive preserve: fast-breaking news. I'm referring to electronic submissions—using a modem, the Osborne and appropriate software to file stories directly over the telephone to newspapers and magazines.

The advantages are obvious: bypassing a progressively slower and more expensive postal system, and avoidance at the receiving end of the need to re-keyboard or typeset the submitted articles. No longer need the freelancer be largely restricted to features, behind-the-news in-depth reportage, or commentary. Indeed, there's no reason now why he or she couldn't rush to the scene of the next Mt. St. Helen's disaster, type copy on his portable computer, and then file it over the phone while his AP counterparts are still struggling first with typed copy and then rekey-boarded telex.

My first experience with electronic submission, as readers of this magazine may know, occurred last April when I filed stories from the war zone in Afghanistan, across 12,000 miles of space for the *Chicago Sun-Times*. The experiment, for that's what it was given that no one knew if a modem would work over phone lines at that distance, proved a success, with a U.S. Robotics *Phone Link* modem, weighing only a few ounces, working perfectly. Indeed, one breaking news story I filed via my Osborne beat *Agence France Presse* and their telex to print by five hours.

At that time, however, I did not file directly to the *Sun-Times*, because their VDT system's modem program does not allow for error-checking, or "handshaking" communication. This is a function of software, allowing the sending computer to dispatch a group of 20 words or so and then to receive an acknowledgement from the receiving computer that the text has been received clearly and free of garbling. If static or other distortion has garbled that sector, it is re-transmitted, quite rapidly, until the whole article is transmitted.

Instead I transmitted first to a computer service acting as a relay—both of us used the excellent

public domain error-checking communications program, Modem 7—and then they transmitted without error-checking over the short, clear hop to the *Sun-Times* itself.

Apparently no American newspaper's VDT system does this error-checking as yet, at least with personal computers like the Osborne. But unless one is transmitting articles from the third world, where phone services are sometimes primitive, it's probably not necessary anyway. Any of the standard modem software programs like *The Micro Link* or *AM-CALL* will work just fine.

If there is a problem with electronic submissions from personal computers to newspapers and magazines, it's that the vast majority of editors and writers concerned don't even know it is possible. As a result, electronic filing by freelancers is almost unknown. Editors at the *Atlanta Constitution* and *Christian Science Monitor*, for example, report that I'm their only electronic contributor as yet, although all would like to see much more of this in the future. The *Chicago Sun-Times* has only two other electronic freelancers.

How is it done? It seems that there are at least half-a-dozen in-house VDT systems in use at American dailies: Atex, Telstar, PSI, DEC, Harris, and Hendrix are the most common. They all operate similarly, with the exception that the UART data-bit configurations vary from 7 bit, even parity to eight-bit, no parity. More varied are the control codes needed to format your text into their systems.

For example, here's what you have to type to get into the *Chicago Sun-Times* Atex computer system: dial their modem number, and transmitting at 300 or 1200 baud, 7 bits, even parity, begin your article with the following:

{ET(10 spaces){SLKLINE{QUWIR{BT
{ET orders an end to any previous articles that may have neglected to put their own "end text," with the

"left brace" before the ET signalling a command. {SLKLINE merely "slugs" the article with your name (in this case mine) or a title of some sort. {QUWIR routes it to the wire room with the {QU signifying routing, and {BT signifying "begin text."

The *Sun-Times*' system recognizes all line feeds and other CP/M type *WordStar* commands, but you should strip out *WordStar*'s print and dot controls before sending. The *Sun-Times* has its own indicators for "begin bold" and "end boldface": {M1, rather than *WordStar*'s ^PB.

At the *Atlanta Constitution*, which uses the Telstar system, everything is exactly the same as in Chicago except that you must put a ^K before every paragraph because their system doesn't recognize *WordStar*'s carriage return and line feeds.

At the *Christian Science Monitor*, which also uses the Atex system though a different version than the one in Chicago, I have transmitted both at seven bit, even parity and at eight bit, no parity. Is that possible? Must be, because I've done it. But here you have to place a ^B before each new graph. Again, their system doesn't recognize our carriage return, line feeds.

It should be pointed out that many major national magazines still do not have the VDT systems used by most large daily papers. Electronic submission is still possible, however, because almost invariably such magazines will have telex. From my Osborne, I have patched into the international telex network and, emulating a telex, have filed that way.

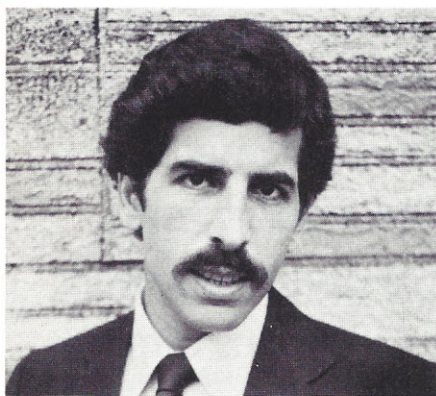
Graphnet, Western Union or one of the other patch systems allow you to dial a central number and then—indicating whether you want to emulate telex, send a telegram, or whatever—to transmit with your ordinary communications programs. Impact pays only \$5 monthly for its Graphnet subscription fee, plus the



"I'm referring to electronic submissions—using a modem, the Osborne and appropriate software to file stories directly over the telephone."

normal telex rates for time used.

Clearly, electronic filing will be as common for freelancers who own computers as it already is for staffers carrying portable terminals in a year or two. Explains David Anable, Overseas News Editor of the *Christian Science Monitor*: "We've only just started thinking about this for our stringers and freelancers, but ob-



Freelancer and agent David Kline.

viously it is something we'd like to see a lot more of."

"After all," he adds, "we've got three or four people employed doing nothing but re-typing freelance material submitted on paper, by mail, into our system, or else taking stories by dictation over the phone. Both methods, incidentally, are highly prone to error."

Says the *Atlanta Constitution's* National Editor Joe Geshwiler: "I'd like to see a lot more of our freelance contributors filing electronically. It saves us great amounts of time and energy. Copy gets to us immediately and we don't have to type it into our systems, the copy is easier to work with, and if we reject an article, we don't have to mail it back to the author. He has it in his own computer."

Mike McCarthy, an Osborne technical writer, recently queried two newspapers, the *Fresno Bee* and the *Cleveland Plain-Dealer*, on the subject of electronic submissions. The

Fresno Bee, which uses an SDC computer, responded favorably to the idea. Even more enthusiastic was the following response from CY Wainscott, Managing Editor at the *Plain-Dealer*:

"Editors will be less and less willing and/or able to accept hard copy as the technological evolution proceeds... If I were a freelancer, dependent on newspaper sales, I certainly would consider a remote portable terminal (or an Osborne) with phone transmission capability... a must."

As far as any potential drawbacks to computerized article submissions, Geshwiler and Anable both foresaw only one:

"It's one thing to get a lot of bad, unsolicited manuscripts in the mail," warned Geshwiler. "It would be much worse if a lot of writers got ahold of our input number and began cluttering up the system with a lot of unwanted material."

Added Anable: "There will certainly have to be some safeguards worked out or there could well be problems." Possible safeguards might be the use of passwords by regular contributors, passwords good for 24 hours only for occasional contributors, and perhaps a separate "Q" or routing point in the system for freelance-submitted articles.

In any case, the best thing to do is simply write and query the editor you're dealing with as to whether he or she would like your piece electronically submitted so that the paper's own typists don't have to re-keyboard it (and so they'll receive it now rather than days from now). If the answer is yes, then ask for the name of their "computer-honcho" and work out the details by phone. That person will either know, or can help you figure out, the various system requirements.

(A word of advice for programmers. The first one of you who designs a simple yet effective communications program which, after

determining which VDT system the newspaper uses, sets all protocols and strips in or strips out any necessary control codes on a piece of text, will make some money off people like me. Call me when you've got it).

To be sure, personal computers such as the Osborne open up vast new possibilities for improving and streamlining a freelancer's work and for making it much more profitable. But, as we all know, simply creating a mailing list of newspapers and "syndicating" one's articles will not produce automatic success. Invariably, it is the writer's talent and credentials which are decisive, as is the trust and confidence that editors develop in that writer.

Assuming, however, that one is a serious periodical writer with interesting story ideas, keen analytical skills, a sense of the ambiguity of human experience, and some talent in shaping the written word, it is no longer necessary to live in poverty while pursuing one's craft. Until the present structure of journalism is improved—meaning, until we improve it—the computer offers perhaps the next best hope to that uniquely American institution: the starving writer.

Bless you, Osborne, for being so damn cheap!

David Kline, 32, has reported from behind Afghanistan's rebel lines six times in the past three years, on assignment for the New York Times, Christian Science Monitor, and Chicago Sun-Times. His articles have appeared in a wide range of newspapers and magazines in the U.S. and worldwide, and his photos have appeared in Time, Newsweek, the New York Times Magazine and a variety of other publications. Kline is the originator of the cover photo for the premiere issue of The Portable Companion, depicting the Osborne 1 with a group of Afghanistan rebels.

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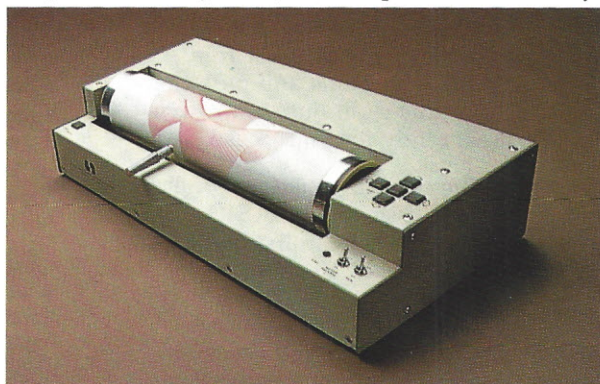
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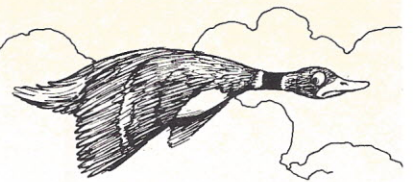
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DUCK!



A game program with moving graphics

by Peter H. Kelly

Duck! was written after I learned to use the direct cursor addressing system for the Osborne described by Kelly Smith in the first *Portable Companion*. It was written for several reasons. First of all, I wanted to show that the Osborne was more than just a superb business and word processing machine. In fact, I bought an Osborne chiefly to learn computer programming and the *Microsoft Basic 80* supplied with the machine is about as complete a form of *BASIC* as is available. Secondly, the program is sort of a celebration of the joys (or frustrations) of direct cursor addressing, after spending almost a year trying to achieve similar effects plotting endless blank lines with FOR NEXT loops.

Finally, the program illustrates the use of the important INKEY\$ function of *BASIC*, which is essential for arcade-type games where information must be inserted into the program without halting its execution. The most familiar way to supply information to a program from the keyboard is with the INPUT or INPUT\$ statements, which are very useful for

computational programs, but hopelessly disrupt continuity when graphics are moving on the screen.

Vengeful Ducks

The program essentially consists of ducks that fly randomly over a forest with the player concealed in a blind at the center. Generally the ducks are of gentle disposition but have a unique capacity to retaliate if fired upon. They also have a vindictive streak which manifests itself if the player becomes vulnerable by allowing too many of the protective trees to be destroyed. To do well, you must shoot a lot of ducks with the more difficult low angle shots before the ducks get you. The large supply of ammunition in the blind produces a rather spectacular explosion if you attempt too many of the easy overhead shots. The program was carefully written to incorporate several subtleties that prevent it from becoming trivial, and it takes considerable skill and practice to do well at the game.

Game Design Strategy

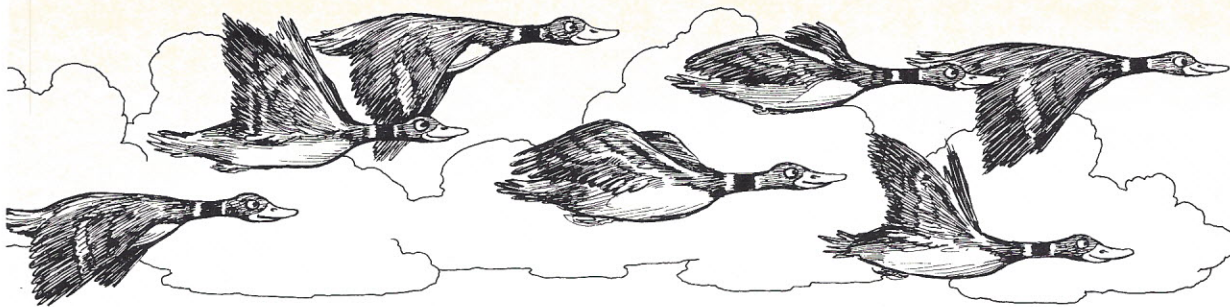
In writing this and other games it's apparent to me that some important rules must be followed if one is to create something that is both exciting and addicting. I would summarize these as follows:

1. A player must take risks to do well
2. The outcome of the game cannot depend on random events (i.e., improved skill must be proportionally rewarded by better scores)
3. Several options must be available so that a strategy can be developed over time
4. There should be exciting visual and (if possible) auditory effects
5. The game should be difficult to completely master

Using INKEY\$

As mentioned, the INKEY\$ func-





tion is essential to writing moving graphics programs where variables are passed into the program from the keyboard. The `INPUT` or `INPUT$` statements halt program execution whenever they are read and give the player no opportunity to decide when he wishes to intervene in the ongoing program. The `INKEY$` function, in contrast, can be embedded in a `FOR NEXT` loop that controls the moving screen display, and will insert a variable into the program without a pause. Each time the statement is read, the keyboard is scanned for a depressed key. The string value of this key is then assigned to the variable `INKEY$`. If no key is being depressed, the value 0 is assigned. The `INKEY$` variable must be a single string character, and in order to convert to numerical data one uses the `VAL` statement (see line 640). This means that only the numbers 0 to 9 can be easily inserted into a program unless certain tricks are used (such as defining a string as a number). To use the `INKEY$` variable one merely has the program jump to another task if, for example, the value of `INKEY$` is greater than zero.

Creating the Illusion

The appearance of motion on a computer screen (or for that matter, any representation of it other than the real world) is actually a deception. In moving graphics programs, one plots an image along a path—allowing it to remain on the screen long enough for the eye to perceive it. The image is then immediately erased (or blanked) and plotted again at the next location. This is easy to do with the direct cursor system in the vertical or horizontal directions, but more of a challenge in oblique or curved trajectories. Lines 590 and 600 of the program show a `FOR NEXT` loop being used to plot the left to right motion of the duck. Here, the line

variable (X) is being held constant and the column variable is allowed to run across the screen. In the same manner, lines 1230 and 1260 show a loop that plots the vertical descent of a bomb. Here the loop is written to increment the line variable, holding the column variable constant (ignore all the S's and T's).

Oblique or curved motion can only be created with a little more thought. To do this, one must first have an exact idea of how the line is to appear on the screen. Then calculate the Y and X limits of the line using the direct cursor address scheme. Finally an algebraic expression is designed to roughly plot the line in this location. Loop variables can be manipulated to keep the plot within the limits of the screen, and constants can be added or subtracted from the expression for a precise fit. This can best be seen in lines 710 and 740 of the program, where the angled path of the bullet is plotted from the lower center of the screen. To get curved lines, one uses higher order algebraic expressions (such as X squared or Y cubed). These are trickier to use and quickly plot off the screen into oblivion unless modified by other parts of the expression. All this sounds rather complicated, but is actually quite simple with a little background in basic algebra.

A few final comments should be made about the use of screen blanking in creating the illusion of motion. As already mentioned, to make an image appear to move one must plot it along a specified path on the screen, erasing (or blanking) the previous image as each new image is plotted. This can be done using physical blanks (" ") or with the ASCII blank code `CHR$(32)`. In horizontal motion, it is often possible to make the blanking process an integral part of the plotting routine in one line (see line 600), but more often we must write two identical lines: one plots the image and the second plots

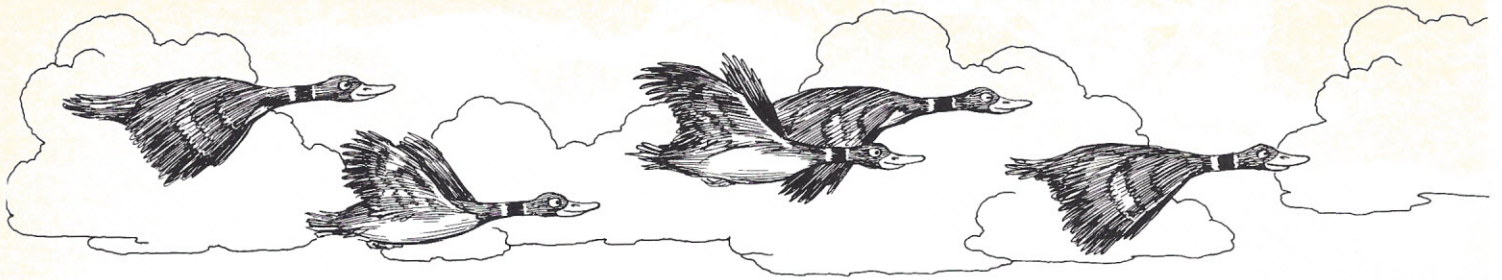
the same number of blanks as there are characters immediately behind on exactly the same path. Some consideration should be given to the length of time the image remains on the screen. This is obviously controlled by the number of program lines that are executed between the plotting routine and the blanking routine.

They can be placed one after another (see lines 1260 and 1270), or an entire program loop can be executed with the image on the screen before it is blanked for the new image (see lines 1590 and 1600). A longer image time may be desirable if the graphics are complex (such as exploding fragments), and shorter times used for simple projectiles, laser rays, etc.

Fast Graphics

The speed of the moving graphics on the screen is primarily controlled by how fast the microprocessor runs and how much work you are giving the computer to do within the graphics loop. Speed is maximized by simplifying arithmetic expressions and not forcing the machine to go through endless logic evaluations within the graphics loop. For example, line 760 prevents the machine from having to check for a hit of the duck until the bullet actually reaches the altitude where the duck is flying. To slow graphic movement, merely insert a dummy loop within the graphics loop, as shown in lines 1240 and 1250.

The program that follows is documented with multiple `REM` statements in order to give the reader some idea of what is going on. However, I strongly advise those hardy souls who do copy the program to remove `REM` statements to speed the game up and reduce screen flicker. I keep two versions of the program: one excluding documentation and one with the `REM` statements in case I forget how it was written.



```

100 PRINT CHR$(26)
110 PRINT:PRINT:PRINT TAB(10)"DUCK! By Peter H. Kelly M.D."
120 PRINT:PRINT:PRINT TAB(15)"September 16,1982"
130 PRINT:PRINT:PRINT:INPUT "Do You Want Instructions(Y/N)";I$
140 IF I$="N" OR I$="n" GOTO 300
150 PRINT CHR$(26)
160 PRINT "The object of the game is to make the most points"
170 PRINT "shooting ducks without yourself getting divebombed"
180 PRINT "or blown up. Points are awarded according to the"
190 PRINT "difficulty and angle of the shot; only four con-"
200 PRINT "secutive shots at the same angle are allowed. If"
210 PRINT "you miss, the duck may bomb you or your protecting"
220 PRINT "trees. If more than 5 trees are lost from one"
230 PRINT "side of your blind, you are liable to be dive-"
240 PRINT "bombed from that side; you can survive provided"
250 PRINT "your ammunition is not hit. The duck can also hit"
260 PRINT "your ammunition directly with an overhead bomb."
270 PRINT "POINTS: Shot ducks score from 10 to 50 points."
275 PRINT "Five bonus points are scored for each surviving"
280 PRINT "tree as long as at least one duck was hit. 20"
285 PRINT "points are scored for trees that survive through"
290 PRINT "an entire game, and zero bonus points are regis-"
295 PRINT "tered if no ducks were hit."
300 PRINT:PRINT:RANDOMIZE
310 DIM L(22)
320 FOR Y=1 TO 22
330 READ L(Y)
340 NEXT Y
350 PRINT CHR$(26)
360 M=0:N=0:Q=11:Z=11
370 D=INT(RND(1)*4)
380 PRINT CHR$(27)+"=";(CHR$(55))(CHR$(32));
390 FOR I= 1 TO 25
400 PRINT CHR$(27)+"=";CHR$(141);CHR$(32);
410 NEXT
420 PRINT " ";
430 FOR I=1 TO 25
440 PRINT CHR$(139);CHR$(32);
450 NEXT
460 PRINT
470 FOR J=1 TO 2
480 FOR I=1 TO 50
490 PRINT CHR$(150);
500 NEXT
510 PRINT
520 NEXT
530 PRINT CHR$(27)+"(";
540 PRINT CHR$(27)+"=";(CHR$(52))(CHR$(54));CHR$(32);CHR$(150);
CHR$(150);CHR$(150);CHR$(150);
550 PRINT CHR$(27)+"=";(CHR$(51))(CHR$(54));CHR$(32);CHR$(128);
CHR$(128);CHR$(128);CHR$(128);

560 PRINT CHR$(27)+"=";(CHR$(50))(CHR$(55));CHR$(138);CHR$(136);
CHR$(138);CHR$(136);
570 X=0
580 PRINT CHR$(27)+"=";(CHR$(32))(CHR$(33));"FIRE AT ANGLE 1 TO 9"
590 FOR Y= 0 TO 52 STEP 1
600 PRINT CHR$(27)+"=";(CHR$(33+X))(CHR$(32+Y))
;CHR$(32);CHR$(32); CHR$(152);CHR$(136)
610 IF X<18 GOTO 640
620 IF X=18 AND Y=23 THEN X=0:Y=0:GOTO 590
630 IF X=19 AND Y=23 GOTO 1390
640 LET A$=INKEY$:IF VAL(A$)=0 GOTO 820
650 IF VAL(A$)=H THEN C2=C2+1
660 IF VAL(A$)<>H AND VAL(A$)>0 THEN C2=0
670 IF C2>3 GOTO 820
680 H=VAL(A$)
690 V=V+1
700 PRINT CHR$(27)+"=";(CHR$(32))(CHR$(32));100-V;" Bullets Remaining"
710 A=6*VAL(A$)-30
720 S=X:T=Y
730 FOR X=0 TO -16 STEP -1
740 PRINT CHR$(27)+"=";(CHR$(49+X))(CHR$(57+INT(A*ABS(X)/10))); "*"
750 PRINT CHR$(27)+"=";(CHR$(49+X))(CHR$(57+INT(A*ABS(X)/10))); " "
760 IF S<>X+16 GOTO 790
770 IF T=INT(22+A*ABS(X)/10) OR T=INT(23+A*ABS(X)/10)
THEN GOTO 1120
780 IF V=100 GOTO 1400
790 NEXT X
800 GOSUB 1210
810 X=S:Y=T
820 NEXT Y
830 PRINT CHR$(27)+"=";(CHR$(33+X))(CHR$(86));CHR$(32);CHR$(32);
840 X=INT(RND(1)*(15+N))
850 FOR Y=52 TO 0 STEP -1
860 PRINT CHR$(27)+"=";(CHR$(33+X))(CHR$(32+Y));CHR$(138);CHR$(152);
CHR$(32);CHR$(32)
870 IF X<18 GOTO 900
880 IF X=18 AND Y=23 THEN X=0:Y=0:GOTO 590
890 IF X=19 AND Y=23 GOTO 1390
900 LET A$=INKEY$:IF VAL(A$)=0 GOTO 1080
910 IF VAL(A$)=H THEN C2=C2+1
920 IF VAL(A$)<>H AND VAL(A$)>0 THEN C2=0
930 IF C2>3 GOTO 1080
940 H=VAL(A$)
950 V=V+1
960 PRINT CHR$(27)+"=";(CHR$(32))(CHR$(32));100-V;
" Bullets Remaining "
970 A=6*VAL(A$)-30
980 S=X:T=Y
990 FOR X=0 TO -16 STEP -1
1000 PRINT CHR$(27)+"=";(CHR$(49+X))(CHR$(57+INT(A*ABS(X)
/10))); "*"

```




```

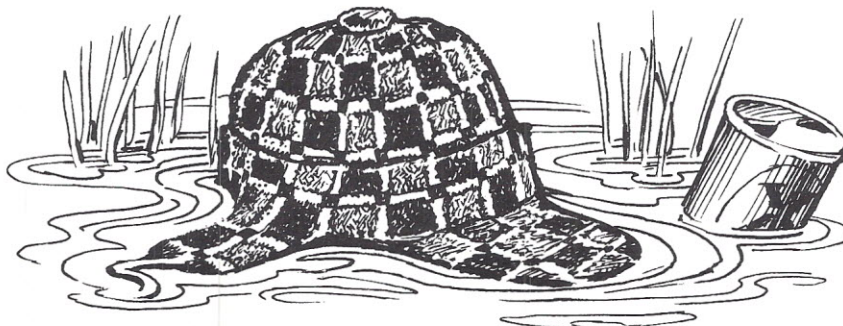
1010 PRINT CHR$(27)+"=";(CHR$(49+X))(CHR$(57+INT(A*ABS(X)
/10))); " "
1020 IF S<>X+16 GOTO 1050
1030 IF T=INT(25+A*ABS(X)/10) OR T=INT(24+A*ABS(X)/10) THEN
GOTO 1120
1040 IF V=100 GOTO 1400
1050 NEXT X
1060 GOSUB 1210
1070 X=S:Y=T
1080 NEXT Y
1090 PRINT CHR$(27)+"=";(CHR$(X+33))
(CHR$(32));CHR$(32);CHR$(32);CHR$(32)
1100 X=INT(RND(1)*(15+C))
1110 GOTO 590
1120 PRINT CHR$(7)
1130 P=P+ABS(VAL(A$)-5)*10+10
1140 PRINT CHR$(27)+"=";(CHR$(32))(CHR$(69));P;"Points"
1150 IF V=100 GOTO 1400
1160 FOR G=0 TO 3
1170 PRINT CHR$(27)+"=";(CHR$(S+33))(CHR$(32+13*G)); "
1180 NEXT G
1190 X=0:Y=0
1200 GOTO 590
1210 W=INT(RND(1)*3)
1220 IF W=>1 THEN RETURN
1230 FOR M=0 TO 19-S STEP 1
1240 FOR E=1 TO 20
1250 NEXT E
1260 PRINT CHR$(27)+"=";(CHR$(34+M+S))(CHR$(34+T));CHR$(141)
1270 PRINT CHR$(27)+"=";(CHR$(34+M+S))(CHR$(34+T)) " "
1280 IF T=D+21 AND M=19-S THEN GOSUB 1390
1290 NEXT
1300 FOR B=1 TO 22
1310 IF L(B)=T+2 THEN L(B)=-1:GOTO 1340
1320 NEXT B
1330 GOTO 1380
1340 IF T+2<21 THEN Q=Q-1
1350 IF T+2>27 THEN Z=Z-1

```

```

1360 IF Q<7 THEN C=5:PRINT CHR$(27)+"=";(CHR$(32))(CHR$(59))"DUCK !"
1370 IF Z<7 THEN N=5:PRINT CHR$(27)+"=";(CHR$(32))(CHR$(59))"DUCK !"
1380 RETURN
1390 GOSUB 1520
1400 PRINT CHR$(26)
1410 PRINT TAB(20)"GAME OVER"
1420 PRINT:PRINT:PRINT
1430 IF P=0 THEN 1440 ELSE 1460
1440 PRINT:PRINT TAB(10)"YOU BOMBED OUT -- NO POINTS SCORED"
1450 END
1460 IF V=100 THEN BONUS=20 ELSE BONUS=5
1470 PRINT TAB(10)"YOU HAD ";Q+Z;"TREES REMAINING WORTH"
1480 PRINT:PRINT TAB(17);(Q+Z)*BONUS; "BONUS POINTS"
1490 PRINT:PRINT TAB(13)"YOUR SCORE WAS ";P+(Q+Z)*BONUS;" POINTS"
1500 DATA 0,2,4,6,8,10,12,14,16,18,20,28,30,32,34,36,38,
40,42,44,46,48
1510 END
1520 FOR G=0 TO 21
1530 PRINT CHR$(27)+"=" (CHR$(53))(CHR$(54+G)); " "
"; 1540 PRINT CHR$(27)+"=" (CHR$(53))(CHR$(58+G)); " "
1550 PRINT CHR$(27)+"=" (CHR$(54))(CHR$(54+G/2)); " "
1560 PRINT CHR$(27)+"=" (CHR$(54))(CHR$(58+G/2)); " "
1570 PRINT CHR$(27)+"=" (CHR$(51+G))(CHR$(55));CHR$(32);CHR$(32);
CHR$(32)
1580 PRINT CHR$(27)+"=" (CHR$(50+G))(CHR$(55));CHR$(138);CHR$(136);
CHR$(138)
1590 PRINT CHR$(27)+"=" (CHR$(52+G))(CHR$(56+G));CHR$(32)
1600 PRINT CHR$(27)+"=" (CHR$(51+G))(CHR$(55+G));CHR$(128)
1610 PRINT CHR$(27)+"=" (CHR$(52+G))(CHR$(56+G));CHR$(32);CHR$(32)
1620 PRINT CHR$(27)+"=" (CHR$(51+G))(CHR$(57+G));CHR$(128);CHR$(128)
1630 PRINT CHR$(27)+"=" (CHR$(53+G))(CHR$(56+G/2));CHR$(32);CHR$(32)
1640 PRINT CHR$(27)+"=" (CHR$(52+G))(CHR$(57+G/2));CHR$(150)
1650 PRINT CHR$(27)+"=" (CHR$(51))(CHR$(58+G));CHR$(32)
1660 PRINT CHR$(27)+"=" (CHR$(52))(CHR$(55+G));CHR$(150);CHR$(32)
1670 PRINT CHR$(27)+"=" (CHR$(51))(CHR$(51+G));CHR$(32)
1680 PRINT CHR$(27)+"=" (CHR$(52))(CHR$(57+G));CHR$(32);CHR$(159)
1690 NEXT G
1700 RETURN

```



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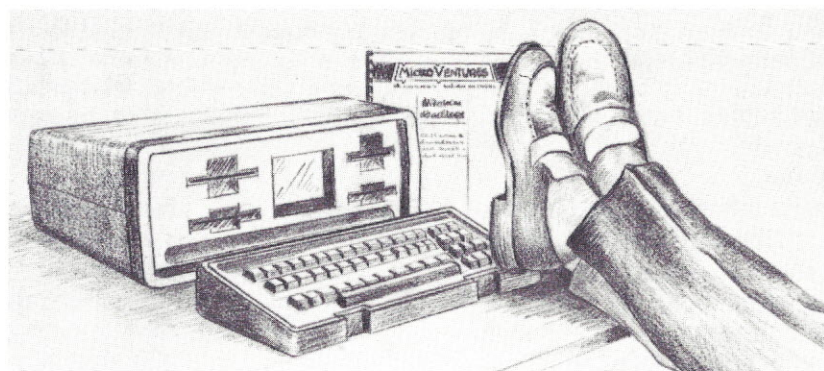
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PRACTICAL EDITING

The fine art of honing a manuscript

Richard Drakeford

“... writing means making a rough draft and refining it over a considerable period of time. My image of myself as a writer includes the expectation of an ‘unacceptable’ first draft that will develop with successive editing into presentable form.”

—Seymour Papert

(MINDSTORMS: Children, Computers, and Powerful Ideas)

Editor's note: This is the first in a series of two articles on using your Osborne 1 as a writing tool. The material deals with word processing for the individual writer, rather than word processing as an office procedure for automated mailing, form letters, etc.

The metaphrases of word processing—“electronic cut-and-paste,” “refining rough draft,” “magnetic text editing,” indeed “word processing,” itself come easy to the tongue. Ready phrases, however, do not constitute an explanation of real processes that can be applied to a file of text. As Bogart learned, it is one thing to say that ore is refined to produce gold. But it takes concrete physical operations with pick and shovel and sluice and pan to extract the *Treasure of the Sierra Madre*.

Proceeding from there, this article presents some specific useful (in many cases non-obvious) editing operations that can be applied to collections of rough notes and which will result in an ordered preliminary draft. The literary merit of the product is not guaranteed—even with computers, that still depends on the judgment and taste of the human author.

When collecting notes, treat text like movie film: divorce production schedules from order of presentation. Movies are shot location by location and later pieced together in narrative order. The order of collecting notes—at your convenience—is different from the final order into which the notes are organized for

presentation—for the reader's convenience. The audience perceives no lack of spontaneity in the skillful pastiche known as *The Treasure of the Sierra Madre*, a product of editing.

Writers had to edit draft material even before the advent of computers equipped with word processing programs. The *logical* procedures of editing have not been changed by the Osborne 1 because those logical operations take place in the mind of the human author. It is the mechanical implementation of editing procedures, especially repetitive procedures, that is made easy by familiarity with *WordStar*.

This article pre-supposes a knowledge of the *WordStar* controls used for basic text entry. It does not duplicate the *WordStar* manual.

The Physical Procedures Of Editing

What are the logical processes that can be applied to a collection of notes or rough draft? Useful here is a definition-by-dissection of that jellyfish called “editing,” a breakdown that can serve as a short mental checklist of what you physically do to text to alter it.

Exhaustive analysis of the possible ways to transform text gives five specific operations. They are:

1. Cut.
2. Reorder.
3. Condense.
4. Add.
5. Polish.

The order in which the editing operations are performed is not critical. There is some labor-saving merit, as will be seen, in following the order given, but nothing prevents application of any or all of the operations at any time in the editing process.

The beneficial effect comes from using the mental checklist systematically, to make sure that at some time during editing every segment of text is considered for application of each and every operation so that all your words are completely processed. In this way the operations do resemble ore refining or grain milling machinery which gives uniform treatment to entire batches of material.

All your words go through a "cutting machine" and the dross is removed. The remainder is graded and sorted and arranged in batches by topic. Next the material is melted down and purified by processing through a condensor. Then new ingredients and spices are thrown into a hopper and combined with the mass. At the final stages, the rough edges are knocked off and the product is polished up.

Editing Tools: Linemovers

In preparation for editing, first make up an editing toolkit. On the *WordStar* diskette, use the Osborne's SETUP program to create a set of special function keys (SFK's) that will automate repetitive editing tasks. To start with, set up the following keystroke sequences:

SFK 7: ^QS ^KB ^X ^KK ^QC ^KV ^QV

SFK 8: ^QS ^KB ^X ^KK ^QX ^KV ^QV

Hot lead printers found it efficient to justify text and set print a line at a time using the Linotype. These special function key sequences allow you to handle text a full line at a time. Consider them your "Linotext."

The sequence of commands on SFK 7 amounts to a tool that will

grab single lines and send them to the bottom of the file in which you are working. You can use it to jot short (single line) notes at any time and put them aside for future reference. At any point in the file, put your cursor at the left edge of the screen and make a line for workspace by hitting ^N. Now jot a nit (shorter than a note), leave the cursor on the line and hit SFK 7. The nit will be transferred to the end of the file and your cursor will return to the location where you are working.

In addition to those jottings, any line or group of lines can be sunk to the bottom of the file. To move a four line paragraph, for example, just tap SFK 7 four times. It is easiest to use your left hand to hold down the control key and your right hand to hit keys in the number pad for executing special functions.

SFK 8 in the toolkit does the same thing, but the lines are moved to the bottom of the screen rather than all the way to the bottom of the file. (Actually, the lines go to the 23rd screen line, one line from the bottom.)

Lines successively sent to the bottom of the file by SFK 7 will come up in the order you sent them down, no matter whether you just wrote them or plucked them from the text. Each line goes to the bottom and pushes up the preceding line.

Just after stashing a line of text at the bottom of the screen file, it remains marked as a block. If you want to put it somewhere else such as another position on the screen, simply position the cursor and hit ^KV to bring the line to where you want it.

Preliminary Processing

Prior to starting an editing session, rake over your draft/notes to make sure that your ore is dressed to a uniform and convenient format for

processing and configured to the size of the screen. Conforming to a strict format will be an aid to automating subsequent editing operations—both you and the computer will be able to handle text note by note, paragraph by paragraph, if you mechanically harrow your materials to break up odd-size clods in the file. As follows.

After invoking *WordStar*, enter the file to be edited by using the "N" command at the no-file menu and calling up your file. You want the screen to hold as much text as possible—every little bit helps—so get rid of the *WordStar* help menu by setting a help level of 2 or lower. (Keep the manual nearby for quick reference rather than cluttering your screen.)

Work on notes and drafts in the Non-document mode rather than as full-fledged *WordStar* "Documents." The document mode has formatting features which, while pertinent to dressing up a finished product for printing, have no utility while working on raw materials.

You will want to turn ON the word wrap function (^OW) and set margins to hold the screen maximum 52 columns (^OR52<CR>) so that text entered automatically conforms to the width of the screen for you. Then, if the material you are working on is not already configured, re-form your entire file to 52 wide by using the repeating function ^QQ ^B. The cursor will zing through the file and trim all lines to 52 columns. Of course, if you have an Osborne with an 80-column display, set the margins wherever you prefer and reform the text accordingly.

When first entering a file, force the entire file into the computer's RAM by using the ^QC command to put the cursor at file's end. Subsequent jumping around within the file will not cause delays for disk access to fetch text (unless the file is excessively long). If left to itself, *WordStar* initially loads just a few screenfuls into

RAM and appreciable movement of the cursor causes disk-reading operations. On the Osborne 1, *WordStar* has room in RAM for files up to about 22K-bytes long.

Putting the cursor at the end of the file also displays the length of the file in characters and lines. Dividing the character count by five gives you a rough guess at the number of words in the file.

Now, if not already done, even though it takes up space on the screen by putting in blank lines, separate different notes and/or paragraphs of text by an extra carriage return/line feed. Course through the file down the left edge of the screen and hit the return key every time you see a new thought, even if it is only a line long.

With double carriage returns at the end of each note/paragraph you can later run through the file note by note by setting a Find operation (^QF) to find that string (Find? ^N ^N) and then pressing ^L to jump to the head of the next note.

Structuring the File

At any time during the drafting process, whenever the chance occurs, it is a good idea to attach distinctive tags, tracers, flags to the head of your notes/paragraphs to indicate a classification. Such tags may be a word like "[Beginning]", "[Middle]", "[Introduction]" or merely a symbol such as ".#" or ". +". Any earmark will do that will help you to find the material again and/or recognize its type by logical category, thematic content, or eventual location in a draft.

Note tags are useful aids to finding your way around in a file. Consistently earmarked notes may be searched for by type. Use *WordStar's* ^QF to find the first occurrence of the tag. From then on, ^L will jump the cursor to the next identical marker. During collation, this will help you pick out all notes of a cer-

"When collecting notes, treat text like movie film... Movies are shot location by location and later pieced together in narrative order."

tain category such as all notes tagged "[conclusion]."

To automate the elimination of tags when you want the file to appear as continuous text, write note headings as dot commands or double-dot comments in the first place. Dot command format tags will not print unless you answer yes to the "Suppress page formatting?" question of the print operation.

To eliminate the headings after they have served their purpose, you copy the file by printing it to disk. The resulting new file printed to disk omits dot commands just as though it was printed to paper and thus strips off all tags or headings entered in dot command format. (Be especially careful with formatting instructions when you print to disk to keep out unwanted spaces for default margins, etc.)

Flags are not only attached to particular notes. Once a draft has been ordered, or partly ordered, set up semi-permanent markers to use for jumping to particular segments of text/collected notes. Section headings in the form of double-dot comments (Example: "...[WINDUP REMARKS]) can be used as landmarks to help you quickly shift your viewer to a particular terrain. Use the ^QF function to find "...[WI", for example.

Cutting

"Whenever you feel an impulse to perpetrate a piece of exceptionally fine writing, obey it—wholeheartedly—and delete it before sending your manuscripts to press. Murder your darlings."

—Sir Arthur Thomas Quiller-Couch

With the computer as weapon, you can expedite murder of your darlings: you zap 'em electronically.

The Osborne 1 is a marvel at deleting unwanted text and excess notes. At this point, under the rubric of "cut," we are concerned mostly with drastic structural excision, rather than the minor trimming which will be accomplished later under "condense."

You get rid of duplicative stuff and trial shots that didn't come out well. You excise entire trains of thought that belong under different file headings. By default, what you don't cut you select to be retained and that selected material will be the basis for future editing.

Cutting excess notes/text is the holiest of the editing virtues, considerate of the audience but also a major boon to the editor himself. Cut text is done with and you can go on to the next chunk of material. Therefore, *always* give priority to the possibility of deleting a note or a segment of draft before you otherwise mess with it. The effect of a good cut is salutary, cleansing to the mind as well as the manuscript.

The cutting operation, when compared with ink on paper technology, is accomplished much more efficiently within the computer. Electronic inscriptions are instantly deleted, and the remainder is closed up and can be re-inscribed magnetically in a matter of seconds. If anything, the computer's power to delete is dangerous, and if you make trial cuts to simplify and shorten material, make sure you have a

backup copy of the file in case you go too far.

The Outline

One of the notes in your file may well be an outline of the prospective text, or a summarized table of contents. If you don't yet have an outline, you will need one prior to the operation of reordering. Sorting and reordering larger nuggets of thought in longer computer files is complicated because reordering is really a layout problem.

It is by the use of outlines and topic lists that the limited viewing capacity of the periscopic screen can be transcended. Although you cannot overview the entire note/draft file at once, you can easily view the model of a file found in an outline. And you can manipulate the model before bothering to manipulate the notes themselves. Just re-arrange the laid out bare bones to make a new skeleton schematic that guides future actual movement of material. A screen size outline can be a model for an entire book.

You can re-order a small outline by hand easily, with line move operations. Use your SFK 8 to take a line from where it is and put it to the bottom of the screen. Since the line is still marked as a block, you can either leave it at the bottom of the screen—perhaps you are collecting lines in order down there—or look around the screen to see where you want to put the line. Then manually move the cursor to that location and hit ^KV to position the line where you want it.

Sorting, the segregation of material into topical categories, merely requires a jotted scratch list of topic titles with no particular regard for order. Such a scratch list can be quickly made up as follows:

Course through the file and jot down the topic of each note/segment of draft. Do this by making a blank

line with ^N, jotting the topic on the blank line, and using your SFK 7 to grab that one line and send it to the end of the file. Or, if your notes all have topic headings, simply make a quick copy of the heading (mark as a block, ^KC) and send the heading copy down to the end of the file. Then go on browsing your notes.

When you reach the bottom of the file you will find the list of note topics which you sent down one-by-one. Edit the scratch list. You will want to quickly eliminate duplications and group related ideas to reduce the number of headings.

A simple scratch list of topics may be sufficient for the sorting task but if you really want to get fancy you can make a fully structured outline. Use heads and subheads, indenting to indicate parallel and subordinate relations of topic importance and decide now the tentative order of presentation.

If your note file is completely disorganized, as a last resort you can always look at your entire collection of notes by physically printing them to paper, cutting them up and spreading them out around the room. Some writers do like to write with their hands and paper is cheap enough when it assists in organizing thought.

Virtual Split Screen

Although *WordStar* does not yet have split-screen capability, it is a simple matter to have your outline in view while you work through your notes/draft material. Just mark the outline as a block (^KB, ^KK) and send it to its own temporary file (^KW). Then print that file (^KP), tear off your outline and tape it up next to your screen.

At that point you have two things in view at the same time—the file itself on the screen where you can manipulate it and a copy of the relatively static outline on hard print-out.

Whether your outline at this stage is just a scratch topic list or a fully developed outline, now use the outline to guide the actual sorting of notes/text.

Reordering Text

Reordering is strictly defined as mere movement that does not change the internal composition of the text segment moved. All that changes is the segment's location within the overall form. This is no small matter: order of presentation may be just as important as content. Deciding order of presentation is a matter for the critical judgment of the person doing word processing. The computer assists with the mechanics.

The Osborne 1 has extensive facilities for accomplishing this task of sorting out text but the methods are not intuitively obvious and require delving into the deeper levels of *WordStar*. With practice, however, electronic cut and paste does get easier to handle.

Conceptually there are two separate functions to accomplish under reordering: sorting and collation.

To sort notes is to segregate and gather notes into classes by topic or thematic content. Each separate note is classified and related notes are garnered without ordering. Simple sorting is a mundane task you can accomplish even if you have a headache. Also, while sorting you will re-familiarize yourself with the contents of a file. Thus it makes a good warm-up for further editing.

Collation is putting the materials in exact order for final presentation, moving blocks to specific locations. In practice it is often expedient for sorting and collation to merge and overlap, as with all the editing functions. Often we logically blend sorting and collation by classifying according to location. Everyone knows *The Treasure of the Sierra Madre* has a beginning, a middle and an end.

The complexity of your file determines whether reordering will require simple sorting as a separate sub-task. Most of the time, however, sorting can and does take place simultaneously with collation/ordering and indeed, the term sorting is used interchangeably with reordering.

Most sorting involves topically related material within a single file which is, however, scattered widely so that the limited periscope view does not permit single-glance overview. This is the great difficulty. It is troublesome and time-consuming to traverse a file hunting for something you know is in there, but you don't know exactly where. This is where tags, flags, tracers and landmarks prove their value.

Furthermore, haphazardly going after single items means multiple file movements of little result. Organize your search and sort operations to maximize the results of each file traversal.

For an initial sort of notes/draft paragraphs into groupings by topic classification, we need physical places in the file to put material which has been picked out for grouping. For rough sorting, the end of the file is a good place to send selected material. Try the following method:

Run through the file. Quickly tap ^Z. Or use a series of ^C's. Or use ^QF to find ^N ^N (two carriage returns) to jump the cursor to the head of the next note/paragraph and repeat successive jumps by ^L.

On the first run through, when you come to material which you think

“Don't stop the refining process with this first rough grading sort. Each major section may now be re-sorted to a greater degree of fineness.”

should end up in the middle of the file, move it to the end of the file. That's right. Move all notes which belong to the middle of the file to the end. Do this as follows: Rapidly tap your SFK 7 to send stuff down one line at a time.

Caution: if you tap too many lines at once or hold down the key, you will overload *WordStar* with a backlog of line move commands. You will get a warning beep and see some exclamation points on the screen. Slow down or stop until *WordStar* catches up.

At the end of one pass through the file, the file will consist of: (1) Intermingled stuff which belongs at the beginning and the end and (2) All the stuff which belongs in the middle which you have put to the end. Got that?

Again go through the file. This time all notes which should belong to

the end of the file get physically moved to the end. Now the status of the file should be: The beginning notes were left alone and should all be near the beginning. The middle notes were at the end, but moving the end notes down has pushed the middle notes back up to the middle.

Don't stop the refining process with this first rough grading sort. Each major section may now be re-sorted to a greater degree of fineness. Going through just the beginning section of the file, subdivide those notes into three subsections: the beginning of the beginning, the middle of the beginning and the end of the beginning. Several passes through the beginning section will re-locate the beginning section at the end of the file in three ordered sub-sections. Then do the same for your middle section and the end. At some point in refining you will find the file ordered well enough for your continued editing purposes. And the time spent in the simple task of sorting will have refamiliarized you with the contents of the file. You and the computer will both be warmed up for the next set of tasks, which will be covered in part two of this series.

Richard Drakeford is a retired army officer who lives in the San Francisco East Bay area. He has published fiction under other names in men's magazines. After retiring in 1971, he attended the University of California at Berkeley, obtaining a degree in Rhetoric in 1975 and a law degree in 1978.

Interfacing the Texas Instruments Omni 800 series printers

Osborne 1 (DCE)	TI Omni 800 (DTE)
1	1
2	2
3	3
6	6
7	7
8	8
20	11

This is a hardware handshaking cable; pin 11 is an output from the printer used as a terminal ready/busy indication for computer peripheral applications. This line is also known as "reverse channel."

The TI Omni printers require certain configuration codes to make them compatible with the Osborne. The basic setup is as follows:

- 1) Enable full-duplex reverse channel
- 2) 1200 baud
- 3) No parity
- 4) 8 bit data word
- 5) 1 start bit, 1 stop bit

The Osborne is configured under the SETUP program for:

- 1) 1200 baud
- 2) Serial printer (no protocol is specified—the cable handles the handshaking.)

Note: there are a half-dozen printers in the 800 series; not all of them have been tested with the Osborne 1. According to the printer manuals, the above cable should be sufficient to drive any of the TI Omni printers.



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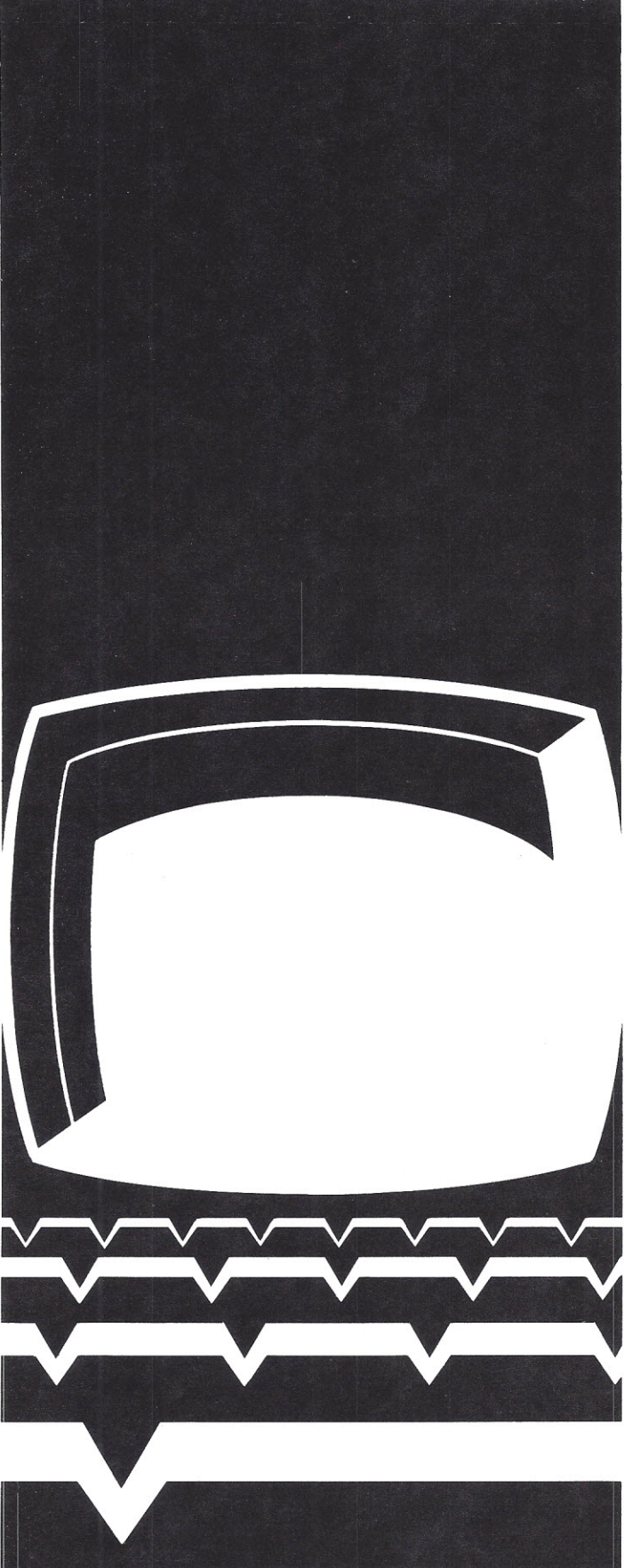
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Graphics screenwriting

*A program to draw
and store screen graphics*

Jack Walraven

Designing a good-looking screen in *MBASIC* is not easy, especially when incorporating block graphics. This program enables you to draw text and graphics on the screen using the arrow keys. When the design is complete, press the [RETURN] or [ENTER] key and the program generates an *MBASIC* routine automatically writing the READ, POKE, and required DATA statements. The savings in labor and time are tremendous.

Based on a similar program for the TRS80 that creates a series of PRINT TAB statements, this program uses the POKE statement to display the block graphics on the screen. The program sets the screen window parameters from video memory location 61440 (decimal) to 64383, to prevent wandering past Osborne's 128 × 32 screen window.

Drawing the Screen

The arrow keys are used to point and move the screen cursor in the desired direction. Graphics are generated by pressing the [ESC] key to rotate through the various graphics characters; press the [TAB] key to retain the one you like on the screen. Keep it depressed to print it in the direction of the screen "arrow" cursor. Note that the cursor may also be used to delete characters.

Program Concepts

You may wonder how your screen design program is generated and saved. When the design is finished, pressing the [RETURN] key PEEKs video memory by noting the location and the ASCII code of that character. A "dim block" character is traced over each screen graphic symbol or character and the information is stored in a DATA statement. The actual video memory location is not saved as it would take up too much diskette space. Instead, it records the increments between memory locations for higher efficiency. When the routine has been written, it is saved as an ASCII formatted sequential access file, with the necessary commands required to recall your screen graphics display. The program can be run by itself or merged into another program; however, make sure the line numbers are different as the merged file lines will replace the corresponding lines in memory. Use RENUM if necessary.

Editor's note—In order to write the sequential file to the B drive, change line #530 to:

F\$ = "B:" + F\$ + ".BAS"

The command to merge a file is simply:

MERGE "FILENAME"

or MERGE "B:FILENAME" if it's located on the B drive. Only files saved in ASCII format (like this program) may be merged.

Jack Walraven is the President of the Vancouver Island Osborne Group in Victoria, Canada.

```
100 '*** SCREENWRITER PROGRAM WITH GRAPHICS FOR THE OSBORNE 1
110 '***
120 '***          written by Jack Walraven (Oct 82)
130 '***
140 '*** 2840 Leigh Rd, Victoria, B.C., Canada
150 '***
```

```
160 PRINT CHR$(26)
170 CLEAR
180 DIM PR$(100)
190 B=61440:I=64383:
200 Z=B
210 C=83
220 RM=999:LM=999
230 SP=32
240 PRINT CHR$(26)
250 PRINT:PRINT
260 PRINT"CURSOR CONTROL AND ALPHA-NUMERICS
270 PRINT"Use the arrow keys to move the cursor to the
280 PRINT"desired position. The cursor will show what
290 PRINT"direction it will move. Use the alpha-numeric
300 PRINT"keys to lay out the screen format and message.
310 PRINT
320 PRINT"GRAPHICS! Use the ESC key to produce the graphic
330 PRINT"you desire. Use the TAB key to continue drawing
340 PRINT"that graphic in the direction you indicated with
350 PRINT"the arrow keys.
360 PRINT"When your design is completed, hit the ENTER
370 PRINT"key. The program will then read (PEEK) your
380 PRINT"design in video memory, write a BASIC program
390 PRINT"and save it in a sequential file, which you
400 PRINT"can then MERGE with any of your programs (just
410 PRINT"make sure that the line numbers don't overlap).
420 PRINT:PRINT:PRINT"press any key to begin
430 Y%=INPUT$(1)
440 PRINT CHR$(26)
450 INPUT "ENTER THE BEGINNING LINE NUMBER (default is 1): ";LN
460 PRINT CHR$(26)
470 IF LN=0 THEN LN=1
480 INPUT "INCREMENT BETWEEN LINE NUMBERS (default is 1): ";IC
490 PRINT CHR$(26)
500 IF IC=0 THEN IC=1
510 INPUT "FILE NAME without .ext (default is TEST): ";F$
520 IF F$="" THEN F$="TEST"
530 F$=F$+".BAS"
540 PRINT CHR$(26)
550 '*****remove cursor from screen
560 POKE Z+128,SP
570 POKE Z,C
580 '*****wait for keyboard input
590 A$=INKEY$:IF A$="" THEN 590
600 '*****check if input is arrow key
```



```

610 IF A%=CHR$(13) THEN POKE Z,SP:GOTO 1160
620 IF A%=CHR$(11) THEN C=94:GOTO 800
630 IF A%=CHR$(10) THEN C=118:GOTO 880
640 IF A%=CHR$(12) THEN C=62:GOTO 960
650 IF A%=CHR$(8) THEN C=60:GOTO 1060
660 A=ASC(A%)
670 IF X>31 THEN X=0
680 '*****check if input is graphic
690 IF A=27 THEN A=X:X1=X:X=X+1:POKE Z,A:GOTO 590
700 IF A=9 THEN A=X1
710 Z1=Z-61440!:IF C=62 AND (Z1-50)/128=INT((Z1-50)/128) THEN
POKE Z,A:GOTO 590
720 IF C=60 AND Z1/128=INT(Z1/128) THEN POKE Z,A:GOTO 590
730 POKE Z,A
740 IF C=94 AND Z-127>B THEN Z=Z-128:GOTO 590
750 IF C=118 AND Z+128<E THEN Z=Z+128:GOTO 590
760 IF C=62 AND Z+1<E THEN Z=Z+1:GOTO 590
770 IF C=60 AND Z>B THEN Z=Z-1:GOTO 590
780 GOTO 590
790 '*****cursor up routine
800 IF Z-128<B THEN 590
810 IF C1<>C THEN 840
820 POKE Z,SP
830 Z=Z-128
840 C1=C
850 POKE Z,C
860 GOTO 590
870 '*****cursor down routine
880 IF Z+128>E GOTO 590
890 IF C1<>C THEN 920
900 POKE Z,SP
910 Z=Z+128
920 C1=C
930 POKE Z,C
940 GOTO 590
950 '*****cursor right routine
960 IF Z+1>E THEN 590
970 IF C1<>C THEN 1010
980 Z1=Z-61440!:IF Z1=RM THEN 590
990 POKE Z,SP
1000 Z=Z+1
1010 C1=C
1020 Z1=Z-61440!:IF (Z1-50)/128=INT((Z1-50)/128) THEN RM=Z1
1030 POKE Z,C
1040 GOTO 590

```

```

1050 '*****cursor left routine
1060 IF Z-1<B THEN 590
1070 IF C1<>C THEN 1110
1080 Z1=Z-61440!:IF Z1=LM THEN 590
1090 POKE Z,SP
1100 Z=Z-1
1110 C1=C
1120 Z1=Z-61440!:IF Z1/128=INT(Z1/128) THEN LM=Z1
1130 POKE Z,C
1140 GOTO 590
1150 '*****read (peek) screen and write BASIC program
1160 CU=1
1170 PR$(CU)=STR$(LN)+" PRINT CHR$(26)":CU=CU+1:LN=LN+IC
1180 PR$(CU)=STR$(LN)+" WHILE A<>32:Z1=Z:READ Z,A:Z=Z1+Z:
POKE Z+61440!,A:WEND
1190 CU=CU+1:LN=LN+IC
1200 N2=0
1210 FOR N=0 TO 2816 STEP 128
1220   FOR N1=N TO N+50
1230     Z=N1+61440!
1240     TZ=PEEK(Z)
1250     IF TZ=32 THEN 1330
1260     POKE N1+61440!,127
1270     Z%=N1-N2
1280     Z%=MID$(STR$(Z%),2):T%=MID$(STR$(TZ%),2)
1290     IF LEN(PR$)<50 THEN PR$=PR$+Z%+", "+T%+", ":
GOTO 1320
1300     PR$(CU)=STR$(LN)+" DATA "+PR$+Z%+", "+T%
1310     CU=CU+1:LN=LN+IC:PR$=""
1320     N2=N1
1330   NEXT N1
1340 NEXT N
1350 IF PR$="" THEN 1370
1360 PR$(CU)=STR$(LN)+" DATA "+PR$+"32,32"
1370 CU=CU+1:LN=LN+IC
1380 PR$(CU)=STR$(LN)+" Y%=INPUT$(1)
1390 '*****save file to disk
1400 OPEN "O",#1,F#
1410 FOR N=1 TO CU+1
1420   PRINT #1,PR$(N)
1430 NEXT N
1440 CLOSE #1
1450 PRINT CHR$(26)
1460 PRINT:PRINT "YOUR DESIGN: ";F#;" HAS BEEN SAVED TO DISK."
1470 END

```




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- | | |
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- | | |
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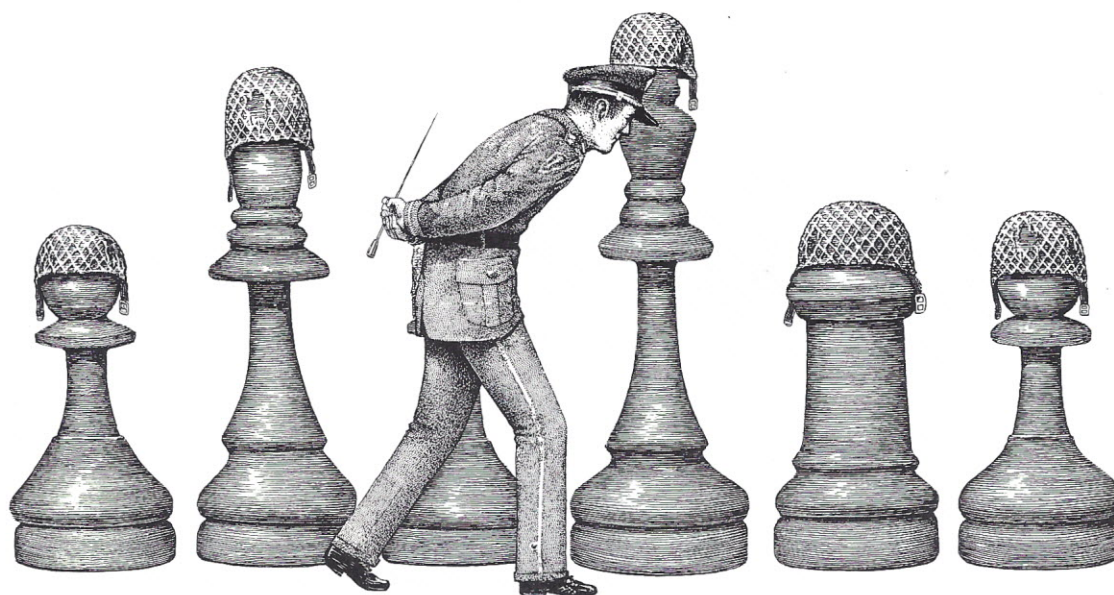
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C·O·N·F·E·S·S I·O·N·S

OF AN ARMCHAIR GENERAL

Osborne 1 thrives at chess tournament

Mike Sanchez

War is not hell when played on a gameboard.

It becomes a fantasy of historical symbolism and vicarious thrills when your opponent is conquered by pure strategy and calm tactics. You suffer the slings and arrows of only a mild headache when you become the vanquished.

The original "army game" is chess, which was invented in India, refined in Persia, popularized in Europe, and discovered by me in Los Angeles at the age of 13. I joined the chess club and quit after one meeting when I was slaughtered by freshman nerds who were light years smarter than I. I decided chess was not cool.

Later in college a girl queried romantically as we sipped wine in front of the fire, if I played chess. I realized then that not only was chess *cool*, it was sophisticated and most important of all, manly.

So when I was invited to the North American Computer Chess Championships in Dallas this past autumn, I discovered the thrill of two computers waging a man's war.

The tournament was sponsored by the Association for Computer Machinery, for the thirteenth consecutive year. This was to be a major computer chess event starring the world's deadliest chess software. Battle lines were drawn between armies

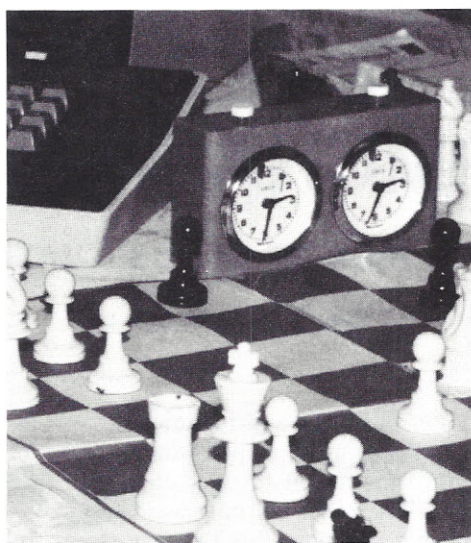
as I joined David Levy and "Philidor" facing the forces of Tony Scherzer's "Bebe."

David Levy of Intelligent Software is considered one of the leading authorities on computer chess. He designs chess programs for his own Osborne 1 computer. David verified that the Osborne 1 is quite capable of handling state-of-the-art chess programs and its portability is ideal for the international tournaments he travels to.

Mike Valvo, Tournament Director, International Master, and one of the best blindfold chess players in the world set the tournament in motion. He called the charge as the pawns



The David Levy/Osborne command headquarters reconnoiters the battle field with Tony Sherzer's "Bebe".



slowly advanced throughout the room.

All around me, on overhead projected screens, I witnessed slow death and destruction and heard the cold hum of computers searching deep within their memories for the cleanest killing blow.

Philidor displayed level after level of possible moves against its enemy, the Bebe Chess Engine, on the Osborne CRT. Bebe countered with

the war cries of assembly language.

Before my eyes came the crushing blows and bloody throes of queens exchanged. Now it would be only a matter of time until Philidor or Bebe wore down its enemy. Speed was the key. Could the Osborne and Philidor think faster than the Chess Engine? This would determine how many legal moves could be viewed in nodes per second, how quickly Philidor could place its men in response to

Bebe's cunning strategy.

The silence of the battlefield was shattered periodically by the "beep" of the machines, indicating when a move had been chosen. Toggle flags rose and fell as the fortunes of war do, showing whose turn it was on the CRT displays. On the smoke-washed board pawns fell, rooks and bishops swept their field and knights leapt valiantly.

Meanwhile, the human observers chatted amiably trying to second-guess the computers, as the Gods of Olympus might watch the pitiable players on Earth below.

After three hours, chessmen were strewn about the sides of the board like so many spent shells. The pathetic remnants of once proud armies were extended in patterns like strings about to break. Osborne/Philidor, searching through 350 to 450 moves per second, was suffering, reeling under the pressure of Chess Engine/Bebe's 20,000 choices per second.

The dreaded horizon effect was evident again in Texas, as the Osborne and Philidor sent man after man to the edge in an Alamo-like last stand.

Finally, it ended. Quietly. No cries, no weeping. Only the sound of the time clock ticking the last minute.

As with all good war games, you want to play again. In the last battle I observed, Osborne/Philidor was the decisive victor against a kamikaze game waged by an Apollo computer that spoke Fortran. The game lasted barely one hour.

War is filled with irony. Philidor's victim was named Chaturanga, the original Sanskrit word for "the army game," chess.

Mike Sanchez is a writer with OCC's Marketing Communications department.

TECHNICAL TIPS

Programming the function keys using DDT

Don Ross
Gary Cuevas

With DDT, the Osborne 1 function keys can be programmed with hex values that are not normally accessible from the keyboard. First, determine which BIOS version you have using the following procedure:

1. Boot your system using the CP/M Utility Diskette.
2. Type DDT and press RETURN.
3. When the DDT program responds with its prompt (—), type D0000 and press RETURN.
4. You should now see one of the following sets of numbers:
0000 C3 03 E5 etc....
0008
OR
0000 C3 03 E1 etc....
0008
5. Notice the hex code at location 0002. If the code is E5, you have BIOS version 1.3. If the code is E1, you have BIOS version 1.4.
6. Type ^C to exit the DDT program.

Once you have determined which BIOS you have, use the SYSGEN program to put CP/M system tracks on a blank formatted diskette. Use the SETUP program to verify that NONE of the function keys are currently programmed for anything other than the digits 0 thru 9. If the keys are programmed, change them to the digits 0 thru 9.

The procedure for changing the function keys with DDT is identical for 1.3 or 1.4 BIOS, but the hex locations are slightly different. The following is a description of how to program function key #0 with just one hex code. Start by booting the CP/M Utility diskette in Drive

A. Place your blank formatted diskette with system tracks in Drive B. Enter the following commands shown boldfaced and underlined, followed by pressing the RETURN key:

For BIOS VERSION 1.3-

```
A>MOVCPM 60 *
CONSTRUCTING 60K CP/M VERS 2.2
READY FOR "SYSGEN" OR
"SAVE 39 CPM60.COM"
A>SAVE 39 B:CPM60.COM
A>DDT B:CPM60.COM
DDT VERS 2.2
NEXT PC
2800 100
-S2012
2012 30 XX ← XX is the hex code of your
choice.
2013 31 _
- ^C
A>SYSGEN
```

OPERATING SYSTEM GENERATION PROGRAM OSBORNE REVISION 1.5

SOURCE DRIVE (A or B) <CR> (This reads the system from memory)

DESTINATION DRIVE (A or B) **B**

DESTINATION DRIVE (A or B) <CR> (This exits the SYSGEN program)

Function key #0 is now programmed with your custom value.

For BIOS version 1.4, use the same procedure, but substitute the following instructions:

1. For the first command, use **MOVCPM 59 ***
2. For the second command, use **SAVE 39 B: CPM59.COM**
3. For the third command, use **DDT B:CPM59.COM**
4. And the last command is **S2025**

All other instructions are identical from this point on. You may now use the customized diskette as a source disk when using the SYSGEN program.

(Don Ross is a Systems Support Specialist for Osborne Computer Corporation. Gary Cuevas, a frequent contributor to The Portable Companion, is a Software Support Specialist at Osborne.)

Setting Up SuperCalc

Brad Baldwin

For many people, *SuperCalc's* output "setup" option has never been adequately explained—or understood. It's not the changing "page length" or "page width" commands that are so confusing; the frustration lies within the "manual setup codes." With manual setup one can easily access compressed, boldfaced, or italic print (if your printer has those features) prior to printing a *SuperCalc* spreadsheet. This feature is different from that of changing the printer initialization string using *SuperCalc's* INSTALLS program. INSTALLS requires exiting from *SuperCalc* to the CP/M system and patching in the requisite codes; any changes are written to the diskette. With manual setup, the printer string is modified at whim *without* exiting from the spreadsheet. The codes do not write to the disk, but merely initialize the printer's ROM. Once a control code is sent to the printer, the *SuperCalc* files will continue to print in that initialized mode until the printer is turned off or new setup codes are keyboarded.

Naturally, the "Disk" option could be used to print the spreadsheet to diskette as a file readable by *WordStar* and then exit to *WordStar* to insert print control codes (^PB, ^PD, USR1:, USR2: patches, etc).

Two methods can be used to alter the printer setup codes from a *SuperCalc* spreadsheet. The first one involves entering the appropriate escape, control, and symbol codes for your printer's functions. The second approach uses Don Ross and Gary Cuevas' "Programming the Function Keys Using DDT" tip and is the method I recommend; however, both will be explained.

After entering *SuperCalc's* output setup option, the screen will prompt with:

Enter Code (<CR> when done): —

Keyboarded characters are not echoed to the screen but they are accepted and registered in memory. *SuperCalc* also ignores hex codes.

Method #1

Instead of hex codes, use:

- ASCII control codes A through Z
- Escape + symbol codes

Selected examples (see your printer manual):

CTRL O	Epson: compressed print mode
ESC Ø ESC E	Epson: 1/8" line spacing, emphasized
CTRL L	Okidata: feeds paper Top of Form
ESC 8	Okidata: 1/8" line spacing
ESC Q	Nec 8023: compressed

Some codes cannot be accessed using this method. The Okidata uses 1D hex to get compressed print, but there is no equivalent escape or control code.

Method #2

By programming function keys using DDT, all printer control codes can be set.

Function Key	Address 1.3	1.4	Epson Hex Codes	Function
^0	2012	2025	1B	escape code
^1	2013	2026	0F	compressed print on
^2	2014	2027	12	compressed print off
^3	2015	2028	30	* 1/8" line spacing
^4	2016	2029	32	* default 1/6" spacing
^5	2017	202A	45	* emphasized on
^6	2018	202B	46	* emphasized off
^7	2019	202C	47	* double strike on
^8	201A	202D	48	* double strike off
^9	201B	202E	40	* reset all modes

* precede with an escape code (1B)

Table 1

Table 1 shows hex codes, suggested patch locations, and the resulting function for the Epson MX-80 Grafrax printer; although any printer can implement this concept. The 1.3 and 1.4 numbers refer to the BIOS version.

Examples

If I want a *SuperCalc* spreadsheet printed with emphasized and double strike, the following sequence is typed in (spaces are for clarity only):

Enter Codes (CR when done): ^0 ^5 ^0 ^7

(Remember, none of the characters will be echoed on the screen.) Immediately afterward, if I need a print-out of another spreadsheet (or the same one) in compressed print and 1/8" line spacing, this sequence is used:

Enter Codes (CR when done): ^0 ^9 ^2 ^0 ^3

And for one more file, I want double strike, normal print, normal line spacing:

Enter Codes (CR when done): ^0 ^9 ^0 ^7

All subsequent files will print double strike, unless new codes are entered or the printer is turned off. It is not necessary to always use the "reset all special modes" code. Each individual "off" code could be typed in.

Indexing files with Wordstar

John Wiseman

As I stared at my file directory (already several weeks old) I realized I had no idea what files I had created under all those directory labels. Over a period of a few months I created several hundred files, including mailing lists, memos, and letters. A system was needed to maintain a file index.

Software has been developed to help solve this problem, however, being a "do it yourself" type, I decided to see if *WordStar* could handle the job. Here's an easy method to create and maintain a true index of file directory names.

Open a document file using, for example, the filename TEST. Type a ^KB, the filename, a concise description of the file, and a ^KK to close off the block. It will look something like this:

(^KB)TEST : this sentence describes the contents of the TEST file.

(^KK)

Enter a ^KW to write the file to the diskette choosing the name INDXFILE (or whatever suits you). After it has been written, delete the marked block (^KY) and continue on with your document.

By now you should be able to see the general strategy: Every time a new file is created, use the ^KR command to read in the INDXFILE in order to provide an update. Write the INDXFILE back out to the diskette (^KW) answering "Yes" to the overwrite prompt question.

Note that the index could also be updated at the end of the text instead of the beginning.

Whenever you forget what's on the diskette, print out the index file and keep the printed copy with the diskette for future reference. Of course, you can always view the index file by calling it up with an edit or the ^KR command while in another file.

SUBMIT.COM Patch

As discussed in the *Wizard of Osborne* column, SUBMIT needs a patch in order to write the \$\$\$SUB file to the A drive. With this simple modification, SUBMIT may be executed on any drive instead of just the A drive.

Type the boldfaced and underlined commands shown below. (Back-up your SUBMIT.COM file before proceeding.)

```
A>DDT SUBMIT.COM
DDT VERS 2.2
NEXT PC
0600 0100
-S05BB
05BB 00 01
05BC 24
- ^C
A>SAVE 5 SUBMIT.COM
```

To verify that the patch is operational, run SUBMIT from the B drive and watch how the \$\$\$SUB file is executed from the A drive after the automatic warm boot.

Okidata **MICROLINE 92**

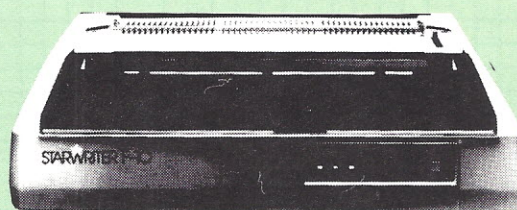


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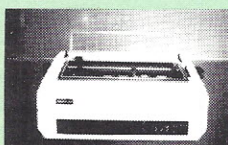
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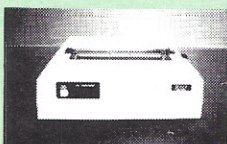
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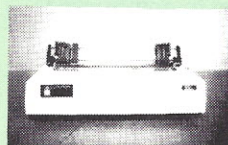


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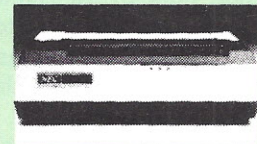
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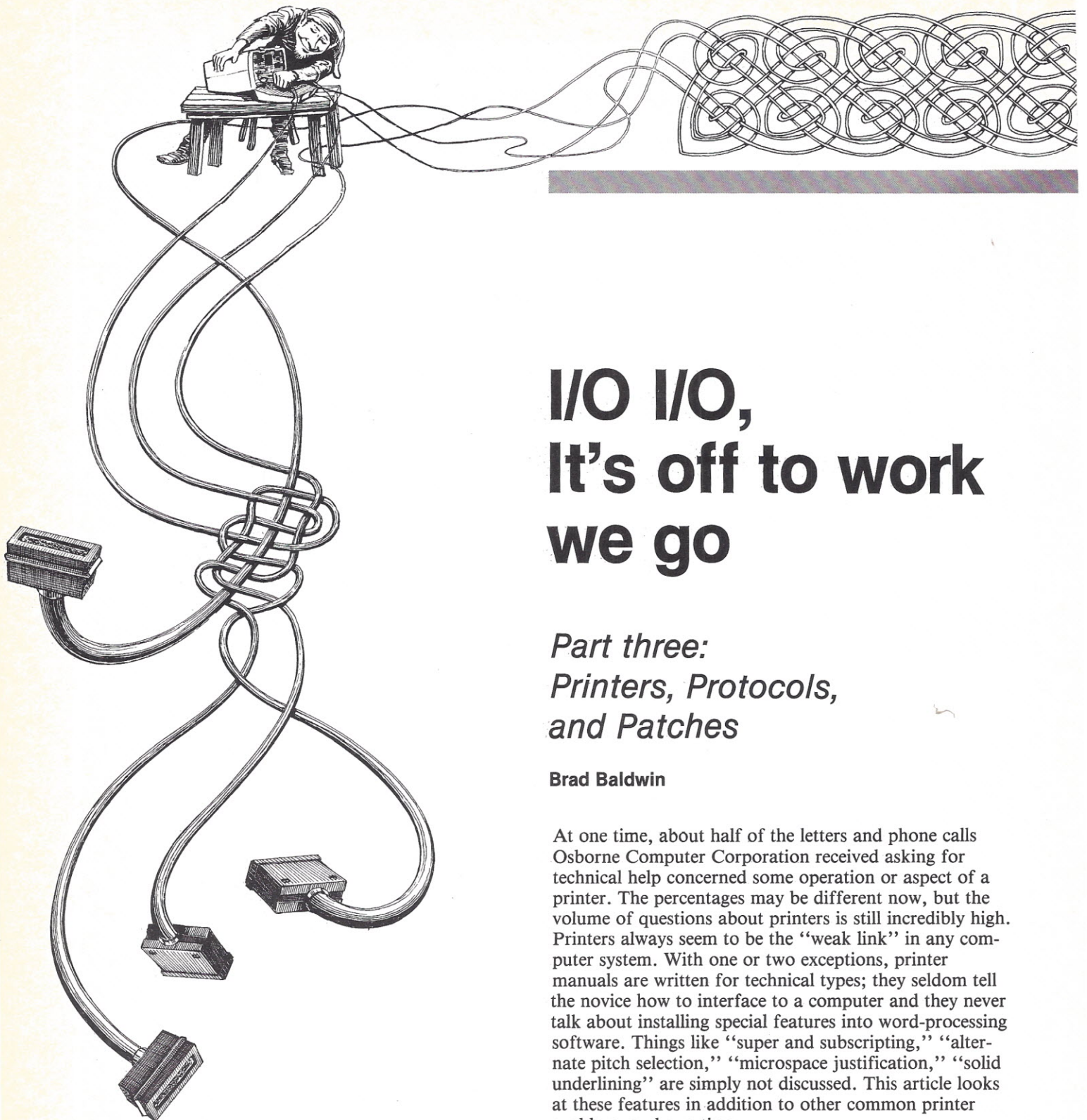
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I/O I/O, It's off to work we go

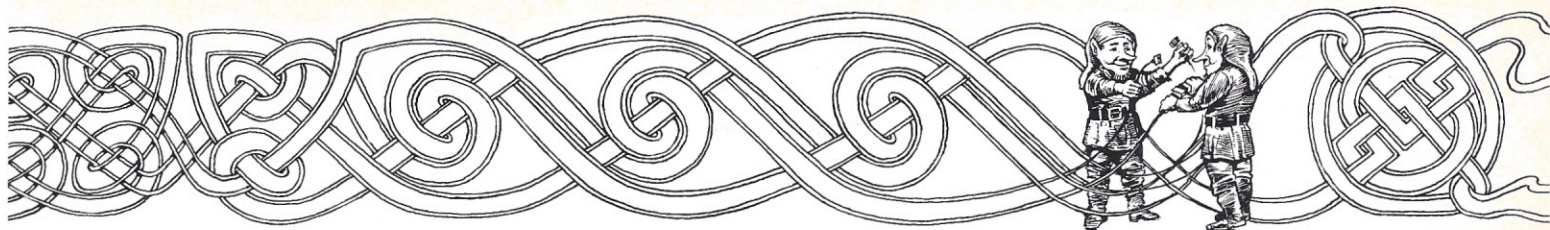
Part three: Printers, Protocols, and Patches

Brad Baldwin

At one time, about half of the letters and phone calls Osborne Computer Corporation received asking for technical help concerned some operation or aspect of a printer. The percentages may be different now, but the volume of questions about printers is still incredibly high. Printers always seem to be the "weak link" in any computer system. With one or two exceptions, printer manuals are written for technical types; they seldom tell the novice how to interface to a computer and they never talk about installing special features into word-processing software. Things like "super and subscripting," "alternate pitch selection," "microspace justification," "solid underlining" are simply not discussed. This article looks at these features in addition to other common printer problems and questions.

Printer manufacturers should not completely shoulder the burden of supporting the myriad of computers and word processing software that exists; it is the responsibility of everyone involved to become knowledgeable on what "the other guy" is doing. Computer manufacturers, software houses, mail-order firms, dealers, and printer companies should all work together in supporting the customer and the product.

I wrote the "I/O, I/O" series with that support ideal



in mind. In the first two articles, (Oct./Nov. and Dec./Jan. issues), serial and parallel interfacing as well as data communications principles were discussed, in the hope of providing hard-to-find information on how printers or other peripherals are connected. In this article, I get down to basics and write about some specific printer requirements and *WordStar* installations.

Communications Protocols (Serial Printers)

A protocol is "a set of rules governing the exchange of information between two systems." Without protocols, communications would be chaotic.

A commonly-voiced complaint is that a serial printer (recently installed) works for a line or two and then dies. Other printers may work for several paragraphs before passing out. Always, the assumption is that there "must be something wrong with my computer."

In either case, the "buffer" is overflowing because there is no "communications protocol." Remember, the computer at 1200 baud sends around 120 characters per second (cps) out of its RS232 port, but the printer usually only prints 12 to 100 cps. The printer lags behind, storing the incoming data in its memory buffer. *When the buffer overflows, data is lost.* Some printers have one line buffers, others have 1K to 16K buffers, which explains the discrepancy between buffer overflows. If the printer is super fast, then problems may never occur. There are several ways to prevent buffer overflowing.

XON/XOFF is a type of protocol available on many printers. When the printer needs to stop the computer from sending any further data (lest the buffer overflow), an XOFF, also called DC3 control code, is sent to the Osborne computer. The Osborne then stops transmission of data. When ready, the printer sends an XON (DC1) control code and the computer picks up where it left off.

The ETX/ACK protocol system is quite a bit different. With this system, the Osborne marks the end of each line it sends with a special End of Text (ETX) signal. When the printer withdraws this line from the buffer, it sends an Acknowledge (ACK) back to the computer, indicating that the computer can send another line of data. XON/XOFF is the preferred protocol for reasons we do not need to go into now. Use "SETUP" to specify the protocol.

There is a more convenient way to prevent data loss. It's called "hardware handshaking." The pin designation is usually listed as "reverse channel," or "secondary request to send."

A handshake is simply an electrical acknowledgement sent from the printer to Osborne's "Data Terminal Ready" line. When the voltage on the hardware hand-

shake line is positive, the printer is ready to accept data, when the voltage falls to negative levels, it goes "off-line" or "busy." Printers like the Diablo 630, Centronics, Epson, Okidata, MPI, and NEC 3500/7700 have this capability through the connection of either pin 11 or 19 (depending upon the printer) to pin 20 on the Osborne 1. (See the Oct/Nov I/O, I/O article for further information.) Some of the newer printers, such as the Smith-Corona TP-1, have built in handshakes that provide those connections automatically without having to swap any pins on the RS232 cable. Very rarely will XON/XOFF or ETX/ACK protocols be necessary with the newer serial printers.

Disabling Line Feeds

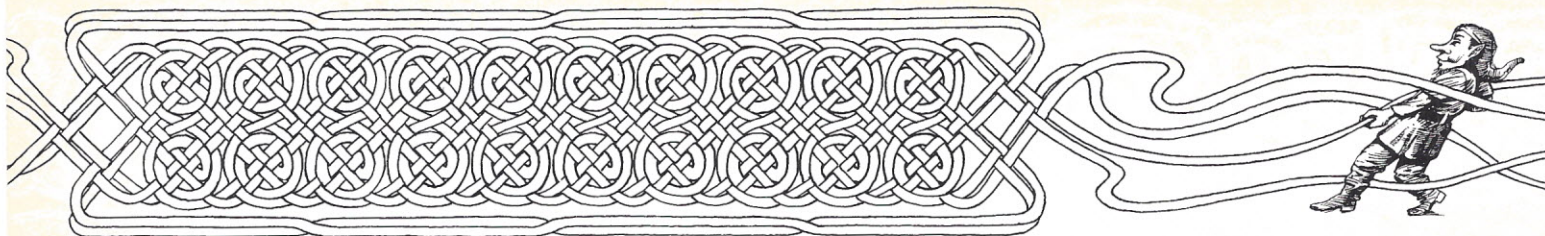
If your printer is double spacing everything when it should be single spacing, then you need to disable the "automatic line feed with carriage return" feature on the printer.

This feature exists because some computer systems do not send out line feeds (LF); they require the printer to tack one on every time it sees the 0D hex carriage return (CR) code. Osborne software is setup to send a CR + LF. The auto LF feature is easily turned off using the appropriate method described in the printer manual (usually a DIP switch).

Radio Shack computers, on the other hand DO NOT send a LF. Line Printers and Daisy Wheel II printers were designed primarily for use with Radio Shack computers—there is no description in their manuals on how to disable auto LF.

There are ways around it, but Radio Shack likes to keep it a secret. First of all, many of their line printers are manufactured by Centronics as an OEM. All of the original Centronics printer manuals describe the process of disabling LF; however, when sold under the Radio Shack label, the manuals were rewritten to exclude any mention of disabling LF. (*Radio Shack recently announced their new line of printers replacing the Line Printer series. Radio Shack informs us that the new units have auto LF switches installed and clearly marked.*)

Secondly, phone calls were made to both Centronics and the Radio Shack folks in order to gather information on what Centronics printers matched up to what Radio Shack printer. We also wanted to know the board levels and component locations to disable line feeds (some of the printers require the removal of a certain resistor or the removal of a jumper to disable LF). Both companies politely declined to release any information whatsoever. Calls to Radio Shack bulletin boards also proved fruitless but we did manage to piece together the information described in Figure 1.



Disabling Auto Line Feed

Line Printer I & III	Set jumper block
Line Printer II & IV	Remove resistor
Line Printer V	Internal DIP Switch (SW 1-3)
Line Printer VI	Internal DIP switch (SW 1-2)
Line Printer VIII	Accessible DIP switch

Figure 1

We do not know the exact location of jumpers or resistors in all models; some of the above printers have gone through three or four different board revisions. It is best to contact a Radio Shack service center for help before tearing into your printer.

Yes, there is a patch available (discussed later) in *WordStar* to kill line feeds, but it does not help much for other software packages.

Let's now move on to "tricks of the trade" when using certain printers. We might as well begin with...

Daisy Wheel II WordStar Patches

These patches kill the extra line feed and install multi-striking, underscoring, super/subscripting in Radio Shack's Daisy Wheel II printer.

Using *INSTALL*, change the printer from "Teletype printer" to "Teletype-like printer that can backspace." Modifying *WordStar* and the use of *INSTALL* are described by Thom Hogan in the *Osborne User Guide* (Pages A-1 to A-12). All address locations refer to *WordStar* version 2.26.

KB					
Ctrl	Label	Address	Patch	Function	
^PT	ROLUP:	06BF	02 1B 1C	half LF up	
^PV	ROLDOW:	06C4	02 1B 1E	half LF down	
	PSCRLF:	0696	01 0D	kills LF	

NEC 3500, 7700

Installing true 3/48th inch super/subscripting, microspace justification, bi-directional printing, and access to all incremental horizontal/vertical motion is a snap with two simple modifications to *WordStar*: 1) change the printer type to "Diablo 1640/1650" within the *INSTALL* program; and 2) patch address 06E7 with 01, 06E8 with 0D, and 06F8 with 00.

The printer will generally run about 10 seconds per page faster, and the copy will look fantastic with its microspaced justified print. Figures 2 and 3 show the differences in print quality.

Microspace Justified Text

WordStar is a CP/M compatible, screen-oriented word processing system with integrated printing capabilities. Both the initial entry of text and the alteration of previously entered text are displayed directly on the screen, as you should be able to see. Most formatting functions take place immediately, resulting in the display of a true print image; additional enhancements are performed during printing, if desired. *Osborne Computer Corporation* provides *MailMerge* with *WordStar*, allowing you to integrate data files--such as a mail list--with your text.

Figure 2

Regular Text

WordStar is a CP/M compatible, screen-oriented word processing system with integrated printing capabilities. Both the initial entry of text and the alteration of previously entered text are displayed directly on the screen, as you should be able to see. Most formatting functions take place immediately, resulting in the display of a true print image; additional enhancements are performed during printing, if desired. *Osborne Computer Corporation* provides *MailMerge* with *WordStar*, allowing you to integrate data files--such as a mail list--with your text.

Figure 3

Diablo 630

Like the NEC thimble printers, install as a Diablo 1640/1650 for many additional features. (*The Oct/Nov issue of the Portable Companion contains an article on interfacing this printer.*)

Smith-Corona TP-1

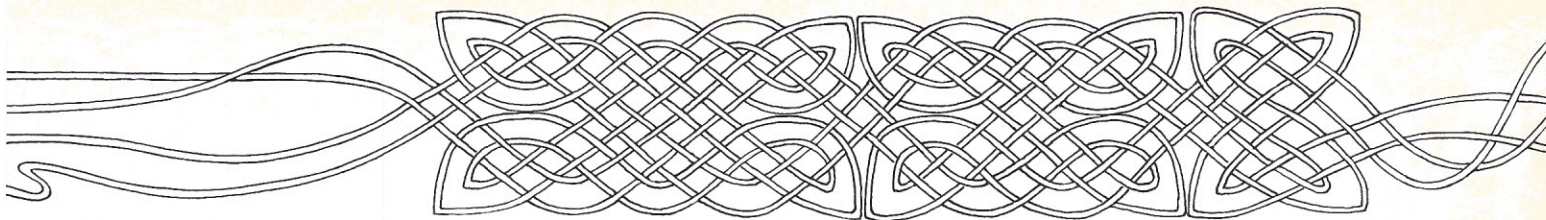
This single line is an example of BOLDFACE.
This single line is an example of BOLDFACE.
This single line is an example of BOLDFACE.

How many new TP-1 owners saw the above the first time a boldface command was issued? The TP-1, like the I/O IBM Selectric, does not have the physical ability to do a carriage return without a LF. When the carriage returns to overstrike the line, it automatically line feeds. A real problem, as you can see.

The fix for this is simple. Simply *INSTALL* the TP-1 as a "Teletype-like printer that can backspace" in order to implement the boldface, underline, and other multi-strike commands. (*See the Oct/Nov "Wizard of Osborne" section for the special cable required by the parallel model.*)

NEC 8023 C.Itoh 8510

These two printers are virtually the same except for the



outward appearance of the front control panel. The only major difference is that the NEC 8023 has the ability to switch select a “device address” i.e., 0, 1, 2, or 3. A device address is like a phone number—it is used to send data to one specific printer when there are several connected to a computer. If the Osborne’s device address is not the same as the printer’s, there is no communication. Invalidate the device address (use the necessary DIP switch), or use the new double density SETUP program to match the device address to that of the printer.

NEC’s normal “CTRL PS” underline fires the seventh needle on the print head and subsequently prints over the bottom of the letters; the appearance is quite homely.

The easiest way to correct this condition is to patch the “graphics” underline character into *WordStar*’s label “ULCHR:”, which stands for underline character. Graphics underlining fires needle 9 and uses a solid line to boot; the appearance is ten times better.

Patches for super/subscripts and graphics underlining:

Label	Address	Patch	Function
PSINIT:	06E7	05 0D 1B 54 31 32	CR, 1/12th “LF
PSFINI:	06F8	02 1B 22	1/6th “LF
PSCRLF:	0696	03 0D 1F 12	CR, vertical tab
PSHALF:	06A8	02 0D 0A	CR, LF
ULCHR:	070C	80	graphics underline
RIBBON:	06DD	02 1B 58	alternate underline
RIBOFF:	06E2	02 1B 59	

Underlining is normally performed only where there is a character. The “RIBBON” patch utilizes the ^PY toggle and performs continuous graphics under all characters and spaces until shut off with another ^PY. To underline several lines in a row, use ^PY at the beginning and end of each line or else the line extends into the left margin.

There is a way to get true incremental rolling super/subscripts using NEC’s reverse line feeding. However, the procedure requires 14 bytes of code and subsequently uses two patch areas and spills into two others. The sequence rolls the paper 3/48th inch up or down; other amounts are easily specified.

KB	Ctrl	Label	Address	Patch	Function
	^PQ	USR1:	06C9	06 1B 72 1B 54 30 39	superscript
	^PE	USR3:	06D3	06 1B 66 1B 54 30 39	subscript

(USR2: and USR4: patch areas are made inaccessible with this particular patch)

Epson MX-80 with Graftrax Plus

How can I get my Epson to properly print superscripts and subscripts?

That, dear readers, is the number 1 printer question asked of us, and probably the number 1 technical question regardless of category. As mentioned in previous issues, Epson made a mistake in their printer manual listing the *incorrect hex codes* for 5 different features, including super and subscripts. There is more to it than that, however, as exiting Epson’s “special” scripts turns double-strike on and bi-directional printing off.

Personally, I do not use Epson’s super/subscripting because of the 1/216 inch line feed for every script printed and the inability to use it with emphasized printing. The 1/216 inch line feed blurs a double strike printed line.

Since scripts seem to be such a hot item, here are two different ways to install it. Method #2 uses the “half-line” feed method of super/subscripts. We threw in several other suggested patches as well.

Method #1

KB	Ctrl	Label	Address	Patch	Function
	^PT	ROLUP:	06BF	03 1B 53 00	superscript
	^PV	ROLDOW:	06C4	03 1B 53 01	subscript
	^PE	USR3:	06D3	05 1B 48 1B 55 00	scripts off
					Bidirect. printing ON

(USR3: infringes upon the patch location for USER4:
USR4: cannot be used. ROLUP: and ROLDOW: could be replaced by USR1: and USR2: labels.)

Use the ^E in addition to the ^T or ^V to turn off scripts, e.g.:

^Tsuper ^T^Escript ^Vsub ^V^Escript

Figure 4 shows what can be done with Epson scripting.

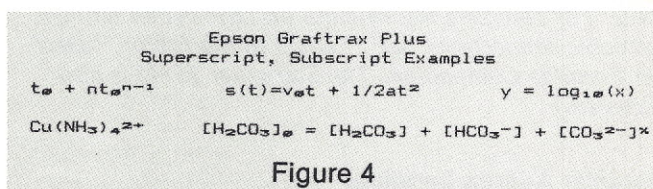
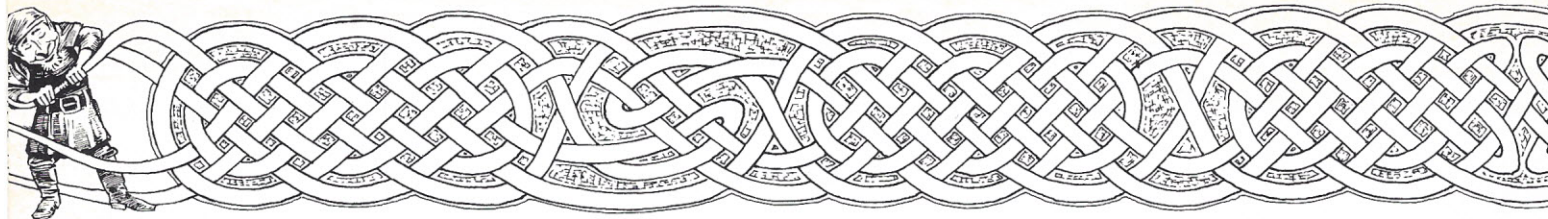


Figure 4

Method #2 (Half line feed)

KB	CTRL	Label	Address	Patch	Function
		PSINIT:	06E7	04 0D 1B 41 06	1/12th “LF
		PSFINI:	06F8	04 1B 41 0C	1/6th “LF
		PSCRLF:	0696	03 0D 0A 0A	CR, LF, LF
		PSHALF:	06A8	02 0D 0A	CR, LF
	^PY	RIBBON:	06DD	03 1B 2D 01	Underlining on



^PY RIBOFF: 06E2 03 1B 2D 00 Underlining off
 ^PA PALT: 06B5 02 1B 34 Italic on
 ^PN PSTD: 06BA 02 1B 35 Italic off
 ^PQ USR1: 06C9 01 0F Compressed on
 ^PW USR2: 06CE 01 12 Compressed off
 ^PE USR3: 06D3 01 0E Double width on
 ^PR USR4: 06D8 01 14 Double width off

PSINIT: and PSFINI: provide the necessary codes for scripts. The RIBBON: patch provides a superior underlining sequence than the normal underline code. The line is solid in color and underlines the space in between words.

C.Itoh F10-40 Transtar 140

These daisy wheel printers are almost identical to each other with respect to components and outward appearance, so they will be discussed together.

The printer is shipped from the factory with something called "RDY/BSY" pre-selected (all six jumpers terminate on "N" lettered pins). This means no special cable or protocol is required.

To get microspace justification, super/subscripts, bi-directional printing, and full access to all incremental horizontal/vertical spacing, simply INSTALL for "Qume Sprint 5 daisy wheel printer."

The C.Itoh F10 requires additional patching to get the above features. The limits for vertical and horizontal motion arguments are reduced through the following patch under INSTALL:

Address		
0797	7A	former value 7E
07A1	7A	former value 7E

(Note: For complete information on DIP switch settings and cable connections, see "Letters to the Editor," Dec/- Jan Portable Companion. The Starwriter 25/45 is also discussed.)

WordStar Address Locations

Most people have different needs and requirements when it comes to patching *WordStar* for the special print features: many of the above patches could have gone into other address locations. Rather than have us define the particular location to install a particular feature, we'll describe available "print control" patch locations in *WordStar*. Once again, much of this information is already in the Osborne *User Guide*.

Both the address and label are given. Often *WordStar* will not recognize certain label names (such as PSCR:). If

this occurs, simply use the address instead.

WordStar Print Control Patch Locations

Label	Address	Default Values
PSCRFL:	0696 02 0D 0A 00 00 00 00 00 00 00	

The first number in the string tells *WordStar* how many bytes to read; in this case, two. Comes installed with Carriage Return (CR) and Line Feed (LF). Changing the 02 hex to 01 kills the LF; changing it to a higher number adds "nulls" slowing the printer down (use with buffer overflow problems on carriage returns).

PSCR:	06A1 02 0D 00 00 00 00 00
-------	---------------------------

String to return carriage to beginning of same line for an overprint command. If your printer can handle it, kill the extra null to speed up the printer. Add nulls if your printer goes berserk during overprinting or carriage return, or it skips characters at the left margin.

PSHALF:	06A8 00 00 00 00 00 00 00
---------	---------------------------

String for carriage return and half line feed for printers that cannot "reverse" feed.

PBACKS:	06AF 01 08 00 00 00 00 00
---------	---------------------------

Backspace sequence.

PALT:	06B5 00 00 00 00 00 00 00
-------	---------------------------

String to set alternate character set or other user defined function. ^PA accesses it from *WordStar*.

PSTD:	06BA 00 00 00 00 00 00 00
-------	---------------------------

Standard pitch (or any other code of your choice.)

ROLUP:	06BF 00 00 00 00 00 00 00
--------	---------------------------

ROLDOW:	06C4 00 00 00 00 00 00 00
---------	---------------------------

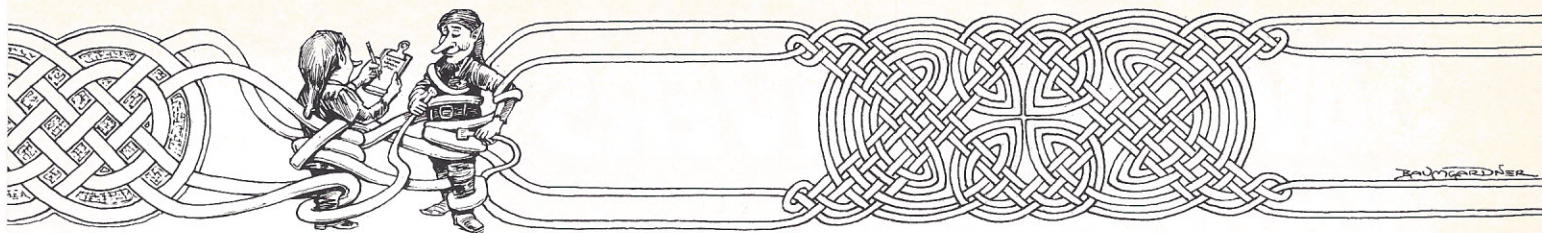
Roll carriage up or down. Utilizes the standard super and subscript controls: ^PT, ^PV.

USR1:	06C9 00 00 00 00 00	(^PQ)
USR2:	06CE 00 00 00 00 00	(^PW)
USR3:	06D3 00 00 00 00 00	(^PE)
USR4:	06D8 00 00 00 00 00	(^PR)

User patchable locations.

RIBBON:	06DD 00 00 00 00 00	(^PY)
RIBOFF:	06E2 00 00 00 00 00	(^PY)

This is a toggle function. The first ^PY encountered in a file looks at RIBBON:. The second one looks at



RIBOFF:. Although defined for usage with dual color ribbons, it can be used for anything.

PSINIT: 06E7 01 0D 00 00 00 00 00
 00 00 00 00 00
 00 00 00 00 00

Sixteen bytes for a printer initialization string. The CR (0D) ensures that the print head starts at the left edge of the paper.

PSFINI: 06F8 00 00 00 00 00 00 00
 00 00 00 00 00
 00 00 00 00 00

Printer "finishing" string. Might be used to cancel all special features.

SOCHR: 070B 2D

Strike-out symbol. Patch this area if you prefer a different strike-out character.

ULCHR: 070C 5F

Underline character.

With the printer manual at your side, you should be able to install into *WordStar* any additional coding of your choice. The process may appear to be confusing at first, but it really is quite simple. If you need "hands-on" assistance, there are over 70 Osborne User Groups about the country willing to show you how INSTALL and SETUP are used to configure a printer.

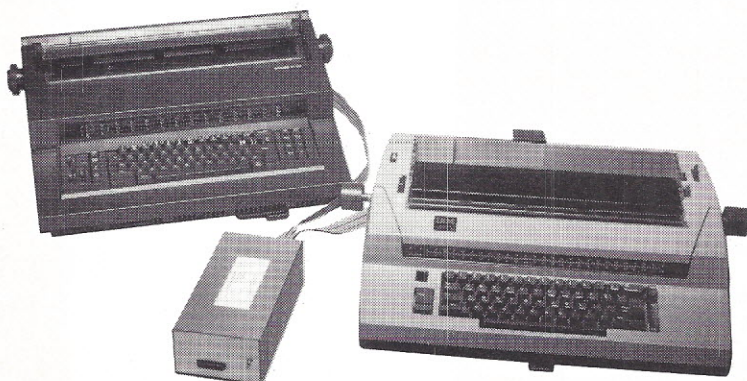
We have mailed out to Osborne authorized dealers application notes on interfacing 20 or so of the most asked about printers. *The Portable Companion* will continue to publish articles on interfacing peripherals in the hope that our readers will become self-sufficient in attaching peripherals.

Future articles will include programs to control and operate scientific test equipment through the IEEE bus.

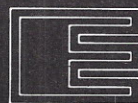


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Saving your ASCII!

Recovering lost files

Dave Lopez & Brad Baldwin

Has this situation ever happened to you? After working several hours on a *WordStar* or *MBASIC* file—perhaps agonizing over one or two perfectly phrased pages—the unimaginable happens. A BDOS ERROR comes flying out of left field throwing you to the CP/M A>—without saving even a nibble, let alone a byte. Or how about this scenario: Your precocious toddler decides to play with the neat buttons on the computer when you step away to answer the phone. The RESET button is pressed; you come back to find the Osborne sign-on message instead of page 5 of the assignment due at 8:00 the next morning. You'll find this article a lifesaver in either crisis.

Part 1: WordStar

The following is a one minute procedure to recover those "lost" *WordStar* files.

Text remains stored in RAM memory, even when the computer is reset or BDOS errors pop up. By using an obscure ability of Digital Research's DDT command (on everyone's CP/M Utility diskette), you can access internal memory, mark beginning and ending text locations, and move the block to hex 100. CP/M's built-in command "SAVE" then writes it to the diskette completely intact.

Let's give it a try.

- 1) Using *WordStar*, write a couple of paragraphs and then press RESET.
- 2) Insert the CP/M utility diskette with DDT in Drive A. Insert a blank, formatted diskette in Drive B, or a diskette that you know has enough space left to incorporate your lost *WordStar* file.
- 3) Step through the following session.

```
A>DDT <cr>
DDT VERS. 2.2
```

```
-D7321 <cr>
```

```
7321 XX XX XX XX XX etc. ....
```

Because a filename was not specified, DDT calls up memory. *WordStar* starts all text at memory hex location 7321—you should recognize your text in the right-hand column. The left column of numbers represents memory locations for every eighth byte in memory; the central block of numbers represents the actual bytes in memory; and the right column the ASCII characters. Now proceed with the following:

```
-D <cr>
```

This scans another 96 bytes of memory. Keep doing this until the end of the sample *WordStar* text. (Hint: When scanning through longer text, use this command sequence:

```
-D7321,FFFF <cr>
```

Pressing ^S pauses the listing. Pressing the spacebar returns you to the DDT "-" prompt. Press the spacebar twice when paused.)

Next:

```
-M7321,YYYY,100<cr>
```

where 7321 = beginning location

YYYY = ending location

DDT's "M" command moves your file down to location 100 and is necessary to save it through CP/M. Note that the ending location may be well past the actual text in your file—it is only an approximate number.

Next:

```
- ^C exits from DDT
```

```
A>SAVE XX B: FILENAME
```

(where XX = number of hex pages to be saved.)

This is the trickiest part—figuring out the number of hex pages (1 page = 256 bytes) to save. Fortunately, the process is simplified because Digital Research provides a hexadecimal math command within their DDT program. The DDT "H" command subtracts the beginning address from the ending address, and it adds the two addresses as well (not needed in our case). Here's the format:

```
H<ending address>,<beginning address>
```

The first number DDT comes back with is the sum of the two addresses, and the second is the difference—the value we require. You must then translate these values into "pages saved," i.e.: 0300 = 3 pages; 0800 = 8 pages; 0C00 = 12 pages. It does not matter if more pages are saved than required; extraneous garbage at the end of the file is easily erased through *WordStar*. Below is a chart listing several sample "pages saved." (Advanced tech tip: to get rid of garbage at the end of your file without going through *WordStar*, use DDT's "F" option to fill the page after your *WordStar* text with zeros, i.e.:

```
-FZZZZ,NNNN,00<cr> where ZZZZ, is the location of
the trailing byte immediately following your file and
NNNN = ZZZZ + 0100h).
```


Sample Page Saves

Start Address	End Address	Pages Saved
0100	0200	1
0100	0300	2
0100	0400	3
0100	04AE	4
0100	04F8	4
0100	0500	4
0100	0D00	12
0100	1000	16
7321	7421	1
7321	7521	2
7321	7621	3
7321	770E	3
7321	7A22	8
7321	7F00	13
7321	8DAA	27

Part 2: MBASIC

The procedures for saving lost *MBASIC* files are almost identical to that of *WordStar*.

Losing a program is especially frustrating because *MBASIC* does not write temporary files like *WordStar* does (FILENAME.\$\$\$) during the edit process. Lose a

program before it's saved to diskette and you've lost it all. As long as there is no loss of power, this tip will recover your lost program.

Two differences exist between saving *MBASIC* files and *WordStar* files: 1) *MBASIC* uses a different starting location (61AE); 2) 61AE must be set from 00 to FF. The rest of the procedures are identical.

```
A>DDT<cr>
DDT VERS. 2.2
-S61AE<cr>
61AE 00 FF (changes the 00 to an FF)
61AF xx.
-M61AE, (ending location),100
-^C
A>SAVE (Pages) B:FILENAME.BAS
```

As in *WordStar*, practice this procedure by writing a short program, pressing RESET, then going through the above steps.

Congratulations. This may seem like a lot of work, but once you familiarize yourself with the procedures it becomes quite simple, taking no longer than a minute. That sure beats several hours of re-typing an article.

Dave Lopez is the Technical Support Lead at Osborne Computer Corporation.



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User Groups

User Group Update

A number of user groups have put the magazine on their newsletter mailing list and we appreciate the input. With the backing of all our end user support groups, we hope to make the User Groups section a broad forum for exchange of information and ideas. Osborne user groups really play the role of ambassadors of goodwill and provide critical support to new owners all over the country. In the interest of bringing readers together with their local group, we are running a recently updated list of groups from all over the country (provided by User Group Liaison, Esther Massie). Those of you out there in the wilderness who have not connected yet, take heed.

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Helpful hints for CP/M and PIP.HLP

Henry Kisor

Here's a hint for the novice *WordStar* user who wants to write a long file in the form of separate shorter files for ease of editing, but has problems assembling them into a single file with the ^KR command: either it is too time consuming and cumbersome, or not enough room remains on the diskette to perform the task. (As the second and subsequent files are merged into the first, the original files remain; this eats up kilobytes at an alarming rate.)

In either case, you can use the CP/M function to create

a new file by means of commas linking the old files on the command line. Example: You have three files, BEGIN.DOC, MIDDLE.DOC and END.DOC, and you wish to assemble them into a single file in that order, WHOLE.DOC.

1. Load the diskette containing those files on Drive B
2. Boot your CP/M System Diskette in Drive A
3. Type:

PIP B: WHOLE.DOC, B:BEGIN.DOC,B:MIDDLE.DOC,B:END.DOC<cr>

That does the job—fast!

But if the sum of the kilobytes of each file you wish to combine is greater than 46K, don't worry. Do it this way:

4. Boot your CP/M System Diskette in Drive A
5. Type: PIP<cr> (you have now put PIP into memory and will see an asterisk prompt.)
6. Remove your CP/M System Diskette and load the diskette containing the three data files in Drive A;
7. Load a blank formatted diskette in Drive B;
8. Type:

B:WHOLE.DOC,A:BEGIN.DOC,A:MIDDLE.DOC,A:END.DOC<cr>

Voila! It's done, and your assembled file resided all by itself on its own disk.

To make things even easier, copy PIP.COM to your *WordStar* work diskette and you'll have one fewer disk to shuffle.

I did not find this neat trick in the *User's Reference Guide*, but in a completely different book. I recommend this book to any Osborne owner since it has been invaluable in helping me discover obscure but helpful nooks and crannies of CP/M. The title: *Osborne CP/M User Guide*, Second Edition (1982), by Thom Hogan (Osborne/McGraw-Hill, \$16.95 paperback).

Henry Kisor is a member of *Chicagos.FOG*. This article was reprinted with permission.

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— by Byl

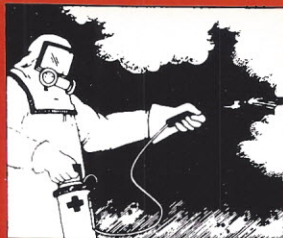
GOTO ARTIST

Valor

This is one of the fastest moving games you will play. You are in an infinitely tall tower. By killing all the monsters on a level, you are given the opportunity for a challenge. The challenge tests your speed, memory, and sense of time. A great hybrid of the "adventure" games and video games complete with stored high score. \$21.95
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P=P+500

NUMBUG



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P=P+100

Blank

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P=1000

VALOR



GOSUB ACID RAIN

Numbug

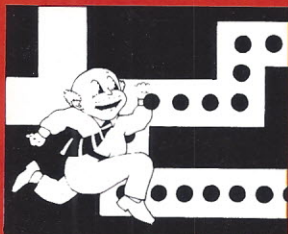
You are a public health official trying to wipe out a deadly virus before it spreads and takes over the town. If you succeed, you move on to the next town. If you fail, ... \$17.95
— by Byl

ON(INT (ROLL/5) + 1)GOTO MAZEWAR,
ARTIST

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IF P<500 AND ROLL>2 THEN P=P*3

OSZY MAN



GOTO NUMBUG

Ozzy Man

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— by B. Bang

P=P*2

Play Portable Software

HOW TO PLAY:

You will need a die or the following Basic program:

```
10 IF INKEY$ <> " " THEN PRINT N:PRINT  
20 N=N+1: IF N>6 THEN N=1  
30 GOTO 10
```

Start at the beginning (RUN), then move the number of spaces "rolled" clockwise, not crossing major barriers. Obey the instructions there and keep track of your points (P). If stumped, consult a Basic manual. All locations refer to the pictures of the programs, not the descriptions. Note that finishing first is absolutely no guarantee of winning. You can play solo as well and keep track of your high score.

It's fun!
Whee!!

Artist II

The same great features of Artist with an added capability of supporting hard copy of screen graphics to an Epson with Graphtrax. \$26.95

GOTO NUMBUG

ARTIST



GOSUB ACID RAIN

Maze War

A video game which uses the entire 128 by 32 screen of the Osborne. You are trapped in an infinite (wrapped around) maze and try and stay alive. There are four other creatures in the maze, each with a different way of moving about, and a different way of destroying you. \$20.00
— by Byl

GOTO TRAPPER

MISSION 675



IF ROLL=3 THEN P=P*3

RUN

(buy an Osborne I computer)

P=0

Artist

A program which explores the Osborne graphics. We developed this program to draw some of our own screens. You can draw, edit and save screens 52 or 128 characters wide, recall them, and work on them more. The storage format is easy to call into other programs so you can access your screens in an application program. This program also has a hypnotic feature of computer generated art. The computer will draw a screen, let you look at it a moment, then draw another. \$21.95
— by Byl

RESTORE

MAZE WAR



READ P

MISSION 675

A robot drone planet has gone wild. You must destroy its reactors before it launches an attack. You must navigate in a cave and defend against missiles launched up at you. \$29.95
— by Mark Kuzmack

P=P-1000

Contest

Are you into contests? We're not. But to show that we're good sports, the first person who can guess the serial number of our first Osborne 1, (one guess per card or letter), will receive \$100.00. PS and OCC folks excluded, void where void.

RETURN

ACID RAIN



P=P+1000

Catacomb

Descend into the catacomb if you dare. A video game where you maneuver for points and survival. A whole new game like nothing you've seen. Aliens are gone from their maze-like catacomb. You have the opportunity to raid their golden eggs and find hidden elixirs if you can avoid the defenses of the CATABOMB. \$19.95

— by Byl

P=P+200

END

DATA 100, 2000, 500, 100, 700:
END

Othello

Tired of fast action video games? Here is a strategy game for you thinkers. It's you against the machine at 3 levels. Uses Oz Graphics and is very friendly. \$19.95

— by Thomas Apalnek

RETURN

Acid Rain

Whether you are catching bombs, eggs, or raindrops, "catch" games can fascinate for hours. The rain is coming down harder all the time, and we have to neutralize it before it hits the ground. \$17.95

— by Byl

P=P/5

CATABOMB



P=P/2

Authors

We are the place for games for the Osborne 1 (tm). If you have a game you have written, send a disk along, a we'll take a look. Hackers take note. Good money here.

READ X:P=P-X

PORTABLE SOFTWARE

TM

Starbase Omega

A day in the life of a starbase. This engaging game has three modules. You must first fend off Klingon attacks on the starbase, then you must successfully navigate through an asteroid belt, and finally dock at the starbase. All three parts are fast moving wonders which masterfully use Osborne graphics. Top five scores are stored. \$25.00

— by Mark Kuzmack

LEARN TO PROGRAM

STARBASE OMEGA



RESTORE

SPACE RAIDERS



READ X:P=P+X

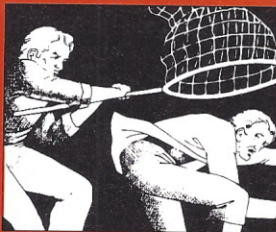
Survivor

You have seconds to dodge androids bent on your destruction! Sometimes they are invisible; sometimes they look just like you; sometimes they move too fast to believe; but they are ALWAYS a challenge! SIXTEEN different action screens! \$26.95

— by Greg Pflaum and
Danny Widmann

RESTORE

TRAPPER



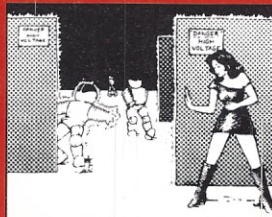
P=P+100

Star Trek

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P=P*2

SURVIVOR



READ P

Trapper

You've seen this game on video sets. Try and box in your opponent without running into anything yourself. Ours has some interesting variations. You are represented on the screen by your initial, and there are two speeds to be used within the game. \$17.95

— by Byl

IF P/5000 THEN P=1000

Boggled

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— by Byl

GOSUB ACID RAIN

Star Raiders

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\$29.95

— by Don Bartholomew

GOTO OZZY-MAN

User Groups

WordStar/MailMerge Tips

Barry Heil

In a previous issue of *The Portable Companion* an article appeared on how to print labels three across using *WordStar* and *MailMerge*.

How often have you set up a file or form letter using *WordStar* and then forgotten what information or filename you established for the datafile to be used?

I have established a small demonstration below with the use of a file called MERGE.TXT and 1UP.ENV to show you how to merge a PRINT FILE and DATA FILE together.

This is accomplished by first setting up the following dot commands at the beginning of the merge-print file:

```
.CS
.DM -----
.AV "Name of file to MERGE-PRINT",FILE1
.AV "Name of file for DATA",FILE2
.DM -----
.CS Your files are being Merged and Printed
.FI &FILE1&
.DF &FILE2&
.RP
```

The .AV dot command allows you to enter information from the keyboard. The dot commands .FI and .DF places the keyboard information into memory and starts to look-up and merge and print. The dot command .RP searches for all data in file to be merged.

The next step is setting-up the following dot command at the beginning of all your new files to be merge-printed:

```
..1UP.ENV (name of file)
.OP
```

```
.PL 26
.MT 12
.MB 0
.DF &FILE2&
.RP
.RV COMPANY,NAME,ADDRESS,CITY,STATE,
ZIP CODE
(35-40 SPACES) &COMPANY&
&NAME&
&ADDRESS&
&CITY&,&STATE& &ZIPCODE&
```

.PA

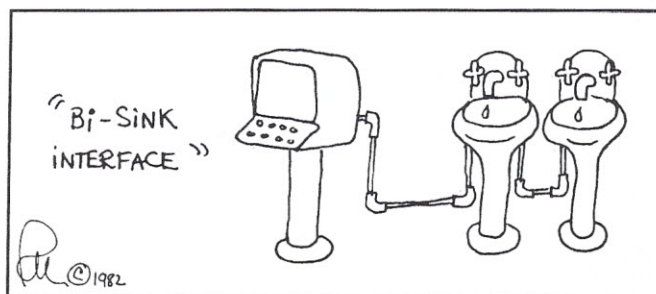
Note how the .DF dot command follows the same information as the "MERGE.TXT" file established first.

And the date file itself would be:

JOG,JOHNDOE,P.O.BOX 611,NEW BRUNSWICK,NJ,08903

To use, simply address Merge-Print "M" and enter the filename MERGE.TXT, the prompts will do the rest of the work.

This article was reprinted from JOGSPRINT, the newsletter of the Jersey Osborne Group.



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Integrating SuperCalc Files With WordStar Files

Ann Babits and David Ruttenberg

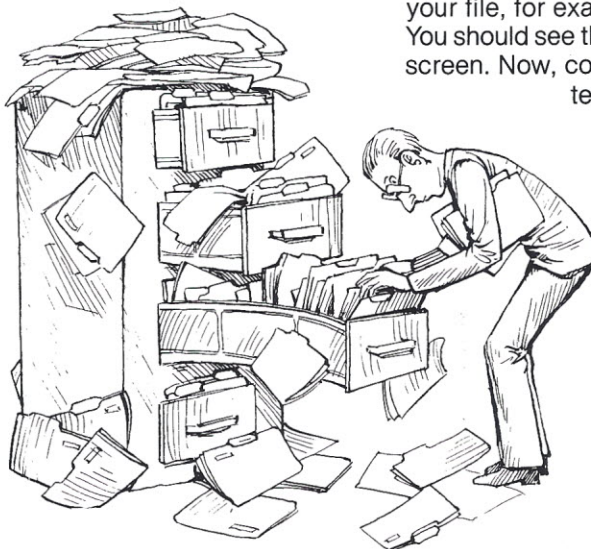
The purpose of integrating *SuperCalc* files with *WordStar* files is the production of a report which has tables, mathematical calculations, or spreadsheet models to support or further illustrate the text. For example, if a prospective business owner was writing a business plan to help secure a bank loan, the plan would contain written text describing the company and its business purpose, the local market, the site selected and other subjects. Integrated throughout the business plan text would be tables showing total effective buying income in the market area, businesses by size in the area with totals of their sales, a balance sheet, and other illustrative tables.

There are just a few simple instructions to produce this integrated, effective report. First, with the *SuperCalc* program diskette in Drive A and a blank, formatted diskette in Drive B, prepare your first *SuperCalc* file. To save this file, use "IO" for Output, "D" or "C" for your choice of either Display or Contents, the range, and

then "D" to store file on diskette. Enter a filename such as "B:DAVE". Because you are saving this file on the Drive B diskette, the filename must be prefaced with a "B:". Repeat these instructions for each subsequent *SuperCalc* file you wanted saved, using the same filename with a number to distinguish the files. For example:

"B:DAVE1", "B:DAVE2", "B:DAVE3", etc. Remember that *SuperCalc* has saved files named with the ".PRN" suffix ("B:DAVE1.PRN", "B:DAVE2.PRN", etc.). This suffix stands for "print file".

Now, quit the *SuperCalc* program, replace the *SuperCalc* diskette with the *WordStar* diskette, and boot up *WordStar*. Log on to the B drive. Prepare your text on the same diskette in Drive B. At the appropriate point in your text where you want to integrate your first *SuperCalc* file, type control "KR" for Block Read and the name of your file, for example "DAVE1.PRN". You should see this file appear on your screen. Now, continue with additional text if needed, inserting the *SuperCalc*



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User Groups

files where appropriate by following the above instructions for Block Read.

When the report is complete, with all the *SuperCalc* files integrated into the *WordStar* file, you can print the completed product. To accomplish this printing, first use control "QR" to jump to the beginning of the text and use control "KB" to set the Block Beginning marker. Use control "QC" to jump to the end of the text and use control "KK" to set the Block End marker. This marks the entire text as one block. Use control "KW" for Block Write. When prompted for the filename, use the name with the ".PRN" suffix (e.g. "DAVE.PRN"). Now you can print the document with control "KP" and the filename (e.g. "DAVE.PRN"). You should have in your hands a complete effective document with *SuperCalc* tables integrated into your text.

(This article was reprinted from the Jersey Osborne Group (JOG) Newsletter, JOGPRINT. Ann Babits is an employee of Osborne New Jersey.)



Battery-Powered Use of the Osborne 1

Jeanne Altmann

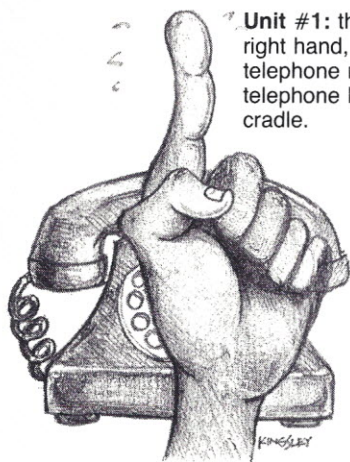
Since December 1981 we have been successfully operating an Osborne from 12V batteries that are recharged by solar-cell panels. We use this machine as an integral part of data collection and report writing for biological research in a wildlife park in Kenya, East Africa. Although we initially encountered a number of problems with each part of our system—overcharging by the solar panel in the equatorial sun, one apparently dead cell in a battery, and design problems in our initial test prototype Osborne battery pack—all the bugs seem to be out and it is now hard to imagine not having a computer at our field site.

The only major problem we encountered with the test version of the battery pack has now been eliminated in the battery pack that Osborne is marketing. The prototype pack that we used until recently was factory-installed inside our Osborne 1. Because the design involved conversion of 12V DC to 110V AC an intolerable amount of heat was gener-

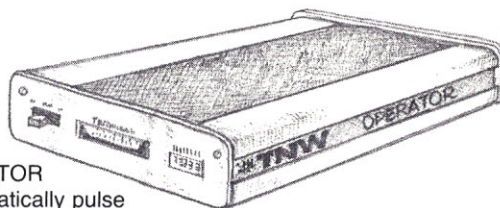
ated and retained within the computer, a problem made worse by the beige case. The heat problem has been eliminated by the battery pack itself now being contained on the external power cord, which simply substitutes for the removable 110V AC cord that is used for operation off house current. The far end of the battery pack cord has a cigarette lighter jack for use in a vehicle. For use directly off a battery outside a vehicle we purchased an auto appliance plug at Radio Shack and put appropriate battery terminal clips on the end of this.

Our use of battery operation is probably much more extensive than is required by most Osborne users who need battery power only occasionally, for relatively short periods, and who have access to line current or to a vehicle for recharging the battery. However, our experience may be helpful for even the more casual battery user, and for those few who require more complete battery operation some of our experiences and prob-

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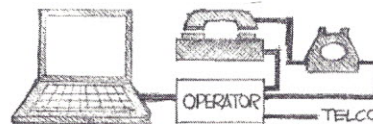
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lems may be particularly useful. Not surprisingly, we find that the length of computer time we get from a battery varies enormously, depending on the kind of use we are making of the Osborne 1. Thus, for text collection with little disk drive operation we get 50 minutes of use from a 5 amp-hr sealed lead-acid-gel battery, but we get only 30 minutes of use when we are running our main *Fortran* program that involves a lot of I/O and disk access. Although a low-battery warning tone was built into our original battery packs, this tone did not always sound in time to save-to-disk material currently in memory. Although frequent saving-to-disk depletes the battery more rapidly, this precautionary measure has been worthwhile for us, as has keeping a log of battery use so that we aren't caught unawares by a low battery. We have also found that the image on the screen usually becomes somewhat distorted before the warning tone sounds, and a save is usually successful if made at that time. We have not yet used the new battery pack enough to see if this is a problem in the marketed version. An ideal battery-powered system should include adequate low-battery warning.

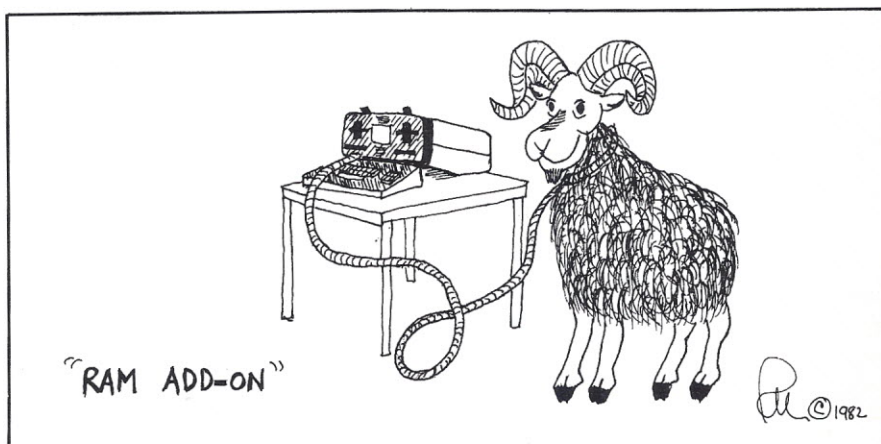
Some final information for the serious battery user or perhaps for

those users who are just interested in energy conservation. When we sought a printer for use in Kenya that would draw as little power as possible, the Epson 80 and the Okidata 82A were recommended. Using a power inverter we tried both printers and found that the Okidata, despite the fact that it prints 50% faster than the Epson, could be run using the Normal setting on the inverter whereas the Epson required the Boost (high) setting and yet we seemed to get just as many minutes of operation from a battery when using the Okidata as when using the Epson. The Okidata has now been running successfully for over half a

year under field conditions.

A 12V output solar panel (we got ours from Silicon Sensors in Dodgeville, Wisc.) charges the batteries for both the computer and the printer. The 1.2 amp-hr panel (18" x 24") that we use takes about 5-8 times as long to charge a battery as the Osborne takes to deplete it. Although this is often a constraint for heavy battery use it will probably not be a major limitation for those many users for whom battery operation is brief or occasional.

(This article was reprinted from *PIP*, the newsletter of the Chicagos.FOG, with permission.)



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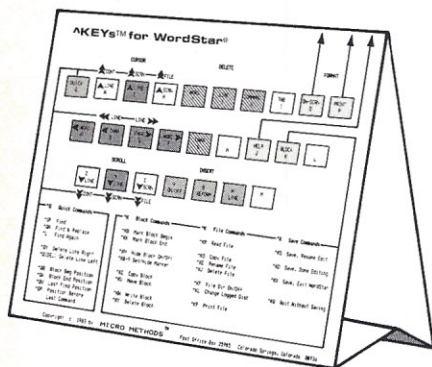
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new Products

Bringing the Accountant Home

Continental Software's top selling financial system, **The Home Accountant**, has been released for use on the Osborne. Billed as "a powerful, yet easy-to-use financial management system," The Home Accountant can perform a variety of accounting functions—from balancing several checkbooks to monitoring cash flow, checks, credit cards, assets, liabilities, income and expenses, as well as printing statements.

The version of The Home Accountant for the Osborne format includes an added forecasting feature and sells for \$99.95. It is available at computer and retail stores throughout the U.S.

Continental Software
11223 S. Hindry Avenue
Los Angeles, California 90045

Playing the Stock Market

Blue Chip Software has converted its popular educational game, "MILLIONAIRE, The Stock Market Simulation" to run on the Osborne. Blue Chip is also including as an integral part of the game a program generator which will actually build new scenarios of the game. This allows the user to create new scenarios in approximately six minutes.

Before making your first million, though, you'll need to invest \$99.95 in the game, available either through Blue Chip Software or local software stores.

Blue Chip Software
19824 Ventura Boulevard,
Suite 125
Woodland Hills, California 91364

Move 'em Out

If you have several CP/M computers but have had a hard time making them talk to one another, Elektroconsult thinks it has a solution for you. **File Mover**, a CP/M-to-CP/M file transfer utility, was recently released on several popular disk formats, including Osborne, Rainbow and Zenith. Elektroconsult advertises its new product as "easy to use" and "modestly priced" (\$59.95 for disk and documentation, \$8 for handling and shipping).

File Mover transfers any sort of CP/M file—including program files—from one computer to another over a serial link. It runs on 8080, 8085 and Z80 microprocessors and can be used with baud rates up to 9600. Error protection and correction protocol with checksums and automatic retry are features ensuring error-free file transfer.

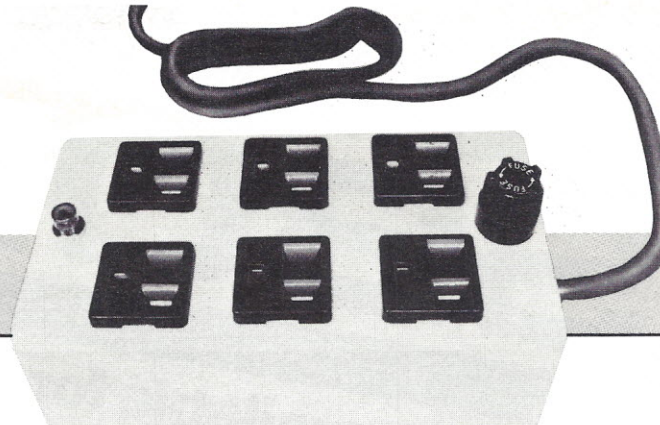
Elektroconsult
Konnerudgt. 3
N-3000 Drammen
Norway

Portable Realtor

Real estate software previously available only for mainframes has been translated into CP/M by Digital Marketing. Developed and tested in a commercial real estate practice on properties ranging from \$300,000 to \$14 million, **Real Estate Analysis** is being marketed to "individual professionals and serious investors."

Real Estate Analysis forecasts one investment for one-to-ten years under different criteria, such as price, loans and income. From user-supplied data, it will project gross income, operating expenses, resale value, pre-tax cash flow, loan analysis and depreciation data. The price is \$195.

Digital Marketing Corporation
2670 Cherry Lane
Walnut Creek, California 94596



Constant Flow

Panamax, a manufacturer of electrical line conditioning equipment, has announced the introduction of a **surge suppressor and noise filter combination device**. The combination of surge suppression and noise filtration in the common and transverse mode is particularly effective in eliminating power line-induced disturbances which cause component damage and logic disruption to sensitive electronic equipment.

The Panamax surge suppressor and noise filter combination device protects sensitive electronic equipment from transient voltage and line noise and improves circuit compo-

nent and system reliability. The price ranges from \$55 to \$139, depending on number and style of outlets.

Panamax
150 Mitchell Boulevard
San Rafael, California 94903

Covering All the Bases

A recently released book, entitled **"Data Bases for Business"** by Van Mayros and D. Michael Werner, promises to make quick, accurate work of the otherwise tedious chore of data base search and selection. After first explaining how to use a data base and

how to find the most appropriate one, the book profiles over 400 data bases. Each profile contains 14 vital entries, including subject, class, data sources, size, maintenance and applications.

Several selective features make this a useful guide: a subject cross reference, geographical and time coverage, on-line access and application examples.

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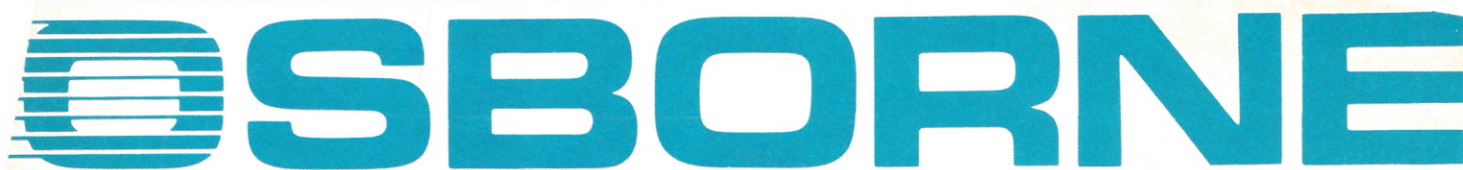
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Personal Datebook™

This popular program handles a calendar and appointment schedules for two people or offices (using Osborne 1 single density), keeping an accurate and complete schedule for the busy executive or professional. Personal Datebook saves frustration when trying to find a convenient time for a staff conference—it automatically finds a time when all staff members are available. A valuable tool for time management, Personal Datebook keeps a permanent record of each day's activities and provides print-out functions for future reference. (*Organic Software®, Digital Marketing™*)

DataStar™

DataStar is an easy-to-learn, versatile and comprehensive data entry program, retrieval and update system for your Osborne. DataStar handles recordkeeping applications from initial form design through updating, addition/deletion, and search/ retrieval of records. DataStar is designed to support speed and accuracy, allowing fast typists to operate at their best rate. The programs comprehensive HELP messages and instructions also provide the assistance the inexperienced user needs. (*MicroPro™*)

Disk Doctor™

This program reclaims damaged diskettes and allows you to recreate accidentally erased files. Disk Doctor helps the Osborne user to restore damaged or faulty diskettes to a usable condition, recovering as much data as it can. As an added benefit, Disk Doctor can also be used to certify new diskettes and eliminate any bad sectors before they can cause problems. (*SuperSoft™*)

Footnote™

Footnote numbers and formats footnote calls and the actual words in WordStar text files. Footnote numbers notes consecutively, and formats the file, placing the notes at the bottom of the appropriate page, or, at the user's option, moving them out of the text to a separate footnote file. (*Pro/Tem Software, Inc.™*)

Milestone™

Milestone is used for planning priority scheduling and tracking of small projects on your Osborne computer. Milestone creates Gant project charts and can be configured to find the critical path of a project. Two kinds of users will find Milestone helpful: project planners who are not yet using computers as planning tools, and planners who are disenchanted with their powerful project planning systems on minis or large frames. (*Organic Software®*)

Enumerator™

Enumerator adds variable line numbering abilities to documents created by WordStar. Enumerator allows you to number by line in any sequential pattern (ideal for attorneys, text writers and BASIC program writers). (*The Orthocode Corporation™*)

dBASE II™

dBASE II is a powerful, easy-to-use data management tool for constructing and manipulating numeric and character information files. A special feature of dBASE II is its own English-style program-building-language. You may SORT, EDIT, or DISPLAY a database directly from the keyboard, or write menus and programs to support your specific applications. (*Ashton-Tate, Inc.™*)

System Checker™

A very simple verification program which allows the Osborne owner to have confidence in operation of his computer. A comprehensive series of tests analyze memory, disk drives, visual display, CPU and printer. Each test shows an easy to understand pass/fail response. A manual helps the user to understand what each option tests, and what the responses mean in easy-to-understand terms with no computer jargon. (Supersoft™)

SuperSort™

Allows the Osborne user to perform sorting, merging, and record-selection functions on data files. SuperSort is compatible with BASIC, Fortran, Cobol and assembler applications programs, and can also be used with mail lists maintained with Mailman™ and WordStar. Sorts up to 32 files into a single output file, automatically using external merge as necessary, depending upon the amount of data and memory available. (MicroPro™)

Grammatik™

Grammatik provides the Osborne user with a unique program that analyzes written styles at both the word and the sentence level. This document-checking system checks for two sources of potential problems; style and typographical errors. Style analysis includes checks for specific phrases commonly recognized as being poor or wordy usage, as well as compiling statistics about word and sentence length. Typographical checking detects a number of errors such as: double words, capitalization at the beginning of sentences, and inconsistent and punctuation marks. (Aspen Software Company™)

Money Maestro™

Money Maestro is designed to provide financial recordkeeping, tax reporting and budgeting for professionals, clubs, families and very small businesses. Those who recognize the benefits of accurate records, but don't require full-blown double-entry accounting systems, will find Money Maestro to be the fast, simple and complete money management package they seek. (Innosys, Inc.™)

Microsoft® Basic Compiler

Allows Osborne users to compile their MBasic interpretive programs into true Z80 machine code. The Basic Compiler provides you with three major benefits: 1) increased speed of execution for most programs; 2) decreased program size for extremely large programs, and 3) source code security. When you distribute a compiled program, you distribute optimized machine code, not source code. Consequently, you distribute your program in very compact form and protect your source program from unauthorized alteration. The package also included a relocatable Z80/8080 assembler for use under CP/M. (Microsoft™)

Mailman™

Mailman creates and manages your mailing list. Formatted screen entry with eight different selecting criteria gives the Osborne user ease of access and entry, along with discrete listing capabilities. In addition, the program automatically sorts data by zip code and name. Mailman is designed to work with WordStar and MailMerge®. (Standard Microsystems™)

BSTAM™

BSTAM is a telecommunications program that allows the Osborne user to send and receive any CP/M file with complete error checking. The BSTAM documentation gives the user a comprehensive overview of types of channels, modes of transmission, sending and receiving any CP/M file. A copy of BSTAM is required on both systems involved in the communication. (Byrom Software™)

Real Estate Investor Calc-aid™

A SuperCalc™ overlay designed for both the real estate professional and the potential home-buyer or seller. Using SuperCalc's "What-if" capabilities, comparative analysis of the complex factors involved with real estate investment can be performed swiftly. Models are supplied for individual residence or income property analysis. (SimpleSoft™)

Documate/Plus™

This is an indexing program that works with WordStar to create an automatic text index or table of contents. Documate/Plus supports up to 8 levels of sub-indexing, and you can choose to index either words or phrases. (The Orthocode Corporation™)

Spellguard™

Spellguard is a computer program that helps the user to eliminate spelling and typographical errors in written materials prepared with WordStar. Two dictionaries are supplied with Spellguard: the first consists of 20,000 of the most frequently used words in the English language and the second contains 10,000 words and can be easily expanded to include technical vocabulary and/or foreign languages. (Sorcim™)

muMATH-80™

muMATH-80 is a fully interactive Symbolic Math System that efficiently and accurately performs true algebraic and analytic operations. muMATH can evaluate and simplify expressions containing variables that have not been assigned numeric values. The muSIMP-80™ programming language is provided with this package to extend muMATH or to implement other Artificial Intelligence applications. However, most Osborne users will find muMATH sufficiently powerful to handle the majority of their mathematical problems. (The Soft Warehouse™)

Math*™

This program interacts with WordStar to add basic math capability to your Osborne computer. Math* performs addition, subtraction, multiplication and division. Within your WordStar document, Math* allows you to perform math functions in either rows or columns. (Force Two®)

These software packages are now available at your local authorized Osborne dealer.

new Products

Getting the Word Out

A new public telecommunications system developed by Graphnet Incorporated promises to permit Osborne users to send messages to Telex, TWX, word processors, computers and dataphones at savings of up to 30 percent over Western Union rates. Called the **Freedom Network**, the new system ties together 140,000 domestic TWX and approximately half a million international Telex terminals.

Multiple addressing, peak load control, message accountability and archival storage can be handled using the Freedom Network's advanced store and forward capability. A single message can be sent to hundreds of addresses. The store and forward system routes the message to each address automatically. The user can instruct the system to insert names in the message and can use edit and forms functions to change dollar figures and add or subtract words, sentences or paragraphs.

Service costs, over and above transmission time, run about \$5 a month. Transmission costs for

domestic messages are advertised as roughly 30-cents per 100 words.

Graphnet, Inc.
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800-336-3729

Have Ozguard, Will Travel

A new waterproof carrying case from Westwind provides protection for the Osborne from weather, dirt and envious eyes. The case—appropriately designated the **Ozguard**—fully covers the entire Osborne, with a heavy duty double YKK zipper around three sides of the computer's widest circumference. The Osborne's handle fits through a webbing lined slot at the top of the case.

The case fits both new and old models and weighs just 15 ounces. Three large pockets with velcro closures accommodate the Osborne Manual, modem, diskettes, cables, line filters and other miscellaneous items.

The Ozguard may be purchased by mail for \$60. It's also available at local computer stores.

Westwind
484 Lake Park Avenue #141
Oakland, California 94610

RB: Phone Home

Out of Golden, Colorado—a city best known for its amber libations—comes word of a robot programmable by home computer. Dubbed **RB5X** by the RB Robot Corporation, the robot is described as “a starter system for technically-oriented people to investigate personally the potential of robotics.”

The robot's standard RS-232 interface makes it compatible with a wide array of microcomputers to allow for program entry and data transfer. RB5X is smart—8K worth (with 16K add-on capacity)—and is cleverly painted blue and gray to color-coordinate with your Osborne.

RB5X learns from experience, its manufacturer claims. With its own microprocessor, memory, programs and tactile sensors, the robot detects

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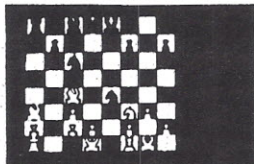
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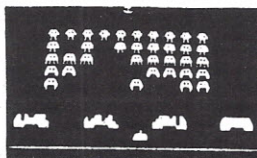
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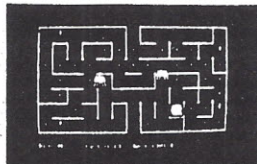


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and responds to objects in its path. Once a successful random response is achieved, the RB5X remembers its actions and repeats the correct response when confronted again with the same situation.

The basic RB5X unit sells for \$1195. A special option package with additional memory, a Polaroid Rangefinder, sonar sensor and a pulsating light option is also available for \$295.

RB Robot Corporation
14618 West 6th Avenue, Suite 201
Golden, Colorado 80401

New Product information is derived from press releases sent to The Portable Companion by the producing companies. Statements of fact or opinion expressed in the New Product announcements that appear in this magazine are those of the producing company and have not been checked for accuracy by Osborne Computer Corporation. Before purchasing any of the products listed in this section, you are advised to check the validity of all claims made for the product.

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Teach your dot matrix printer to tap dance

Barbara Elman

With printer technology improving as fast as computers themselves, many Osborne owners have postponed investing in "letter quality" printers and happily produce correspondence, reports and articles with affordable dot matrix. I too chose an Epson dot matrix printer to match my budget, knowing even as I unpacked my Osborne that I would eventually need to produce pages with a more "professional" look. Not ready to interface with typeset for each issue of *Word Processing Newsletter*, I had an alternative: borrow a daisywheel printer from a friend for camera-ready copy.

One month this was not possible and my next issue was ready to print. I was stumped. The Epson was performing brilliantly on letters and labels, but I wanted more than dots for the newsletter. Since I had just installed *Graftrax-Plus*, (a great achievement, since I am no technician and practically yanked the original EPROM out of its housing), I knew the Epson could do some fancy dancing—given the right software instructions.

I recalled some articles I'd seen on this and pulled the premiere issue of *The Portable Companion* and the November 1982 issue of *Interface Age* off the shelf. I found an article in each about "patching" *WordStar* to take advantage of the Epson's capabilities. Compressed, expanded and emphasized modes, subscript and superscript were almost at my finger-

tips. But what I really wanted was to get an *italic phrase* in the middle of a sentence—without the inconvenience of changing printwheels, as on daisy-wheel printers. I knew there must be a way and scanned the Epson manual for clues.

Appendix B listed "control codes," and midpage I found the codes that toggle italics. Maybe if I substituted those hex codes for some of the patches described in my mini-guides it would do the trick. I followed both Jim Woolley's and George Milburn's instructions, not at all sure about the results. After reconfiguring the now-patched *WordStar*, I coded a document, printed it, and voila! Compressed came out normal, emphasized mode printed three separate lines instead of three times on one line, italics came out bold, double-width was single. Something was drastically wrong.

HexPrintR

In *The Portable Companion*, however, was an ad for *HexPrintR* software, displaying a cut dot matrix smile face. My face was far from smiling, and since the ad claimed *WordStar* could perform magic with my printer, I called Tom Vyse of C.I. Software (1380 Garnet Ave, Suite E149, San Diego, Ca 92109) for help. I learned C.I. not only publishes software that draws smile faces and other graphic goodies, but could also custom install the *WordStar* patches I needed, along with several I wanted

in other key codes (like *italics*). The software could be customized for my Epson with *Grafrax Plus*, producing continuous underline (without skipping spaces between words), compressed super and subscripts, and attractive combinations of emphasized, double-density, double-width, condensed and italicized print—for a reasonable \$65. I ordered the whole package straight away.

“I knew the Epson could do some fancy dancing—given the right software instructions.”

Tom also explained that C.I. custom installs *WordStar* for other printers, including Brother, Comrex, C. Itoh, NEC and Okidata, maximizing their capabilities. For C. Itoh and NEC printers he features software that mixes Greek symbols, block graphics, playing card symbols (hearts, diamonds, etc) and other features with automatic paragraph reform, so that right margin justification isn't altered by these special functions (as it often is with user-installed patches). *HexPrintR* supercharges C.I.'s custom *WordStar* to produce special characters, graph and box drawings, and set tabs via the printer instead of *WordStar*. This last feature is useful to print file copies of mailing lists. By merging the list with a document containing the *HexPrintR* selected tab set-up, each record will be separated at the printer by properly spaced tabs, for easy reading on paper.

When I asked Tom whether users like myself could do this fancy patching without software like his, he conceded they could—with at least a year of assembly language program training and lots of trial and error. Having

failed once in patching *WordStar* myself I admitted I'd rather pay for assistance and avoid the agony—and wasted time—of tackling it again. This may not be the case for computerists who like to program, but it's the best choice for writers like me with no patience for technical details.

Fancy Font

Later that day I found another way to transform the Epson into the printer of my dreams. SoftCraft (8726 S. Sepulveda Bl, Suite 1641, Los Angeles CA 90045) publishes the *Fancy Font* software system, which helps Epson printers surpass even daisywheels (in my opinion) and come as close to typeset as possible for \$180. Originally developed on an Osborne 1, it works on other computers as well. An excited phone call elicited a package containing six diskettes in a nicely bound manual and I was printing again.

Having learned about interfacing word processor to typeset for a previous article, I was familiar with the differences between these methods of computerizing words onto paper. Word processing lets the author see on-screen pretty much what is going to be printed (depending on the word processing program used), with tabs, paragraph endings, centering, even right margin justification. Sometimes codes are imbedded within text for special print functions, as in *WordStar*. Typeset, on the other hand, is input differently than word-processed text, with lots of imbedded codes for type size or font changes, paragraph endings, tab stops and centered headings. Typefaces are switched during printout and loaded online before printing. The text itself is input flush left even if indented, tabbed or centered on print-out.

So *Fancy Font* is actually a print program that treats word processed text as if it were being typeset (in this case, played out via Epson printer). It tells the Epson how to “paint” each character dot by dot, producing final

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copy which only looks dot matrix on close inspection, and gets even darker if reduced by Xerox or printed. Since I print my newsletter by offset from camera-ready layout it seemed ideal.

To accomplish this rather impressive feat, the Epson print head passes over each character at least six times, moving the paper as little as 216th of an inch between each pass. Two speeds of fast rough draft are possible. (I printed only three single-spaced two-column pages of final copy an hour—but was it gorgeous!)

So far, the creators of *Fancy Font* have only customized it for Epson printers, but are working with other brands whose capabilities meet the program's parameters. (To learn whether your printer can use *Fancy Font*, please contact SoftCraft directly.)

The *Fancy Font* package consists of three distinct parts. The most useful is Pfont, which formats the text during printing (used in place of the *WordStar* print function). It includes a Roman, Sans-Serif, Script, and even an Olde English typeface, as well as bold and italic version. Each font has a type point range from eight up to (in some cases) 40 point.

NOTE: "Point" is different than typewriter "pitch." Pitch means number of letters per inch—10 or 12 is standard on a Selectric, with equal distance between each letter. Proportional pitch means the distance between each letter is proportionally based on the width of that letter—with fat "m" taking more space than skinny "l". Point, however, includes the letter's height as well as the width and distance from other letters; one point being 1/72nd of an inch. Most books and magazines are printed in 8 to 12 points, with headings from 18 to 40 point. Write for the *Fancy Font* brochure to see samples of all type styles and sizes available.

The second part of the package is Efont, which allows you to edit individual characters, create logos or new characters using a text editor,

and install them into new or existing font sets. Being able to change right and left margins of individual characters (number of blank dot positions beside each letter) was essential to edit the Sans-Serif font, which I found had too little space between the skinny letters ("l," "j" and "i") and their neighbors. The period on small fonts (a single dot) could barely be seen when my pages were offset printed, so I made it larger and darker via Efont.

**"Fancy Font is
actually a print
program that treats
word processed text
as if it were being
typeset."**

The third component is Cfont—a font creation program that uses the Hershey character database created by Alan V. Hershey for the National Bureau of Standards. It contains over 1600 characters; several capital and lower case typefaces other than those in Pfont; standard numbers and symbols; Greek characters, music symbols, special numerals and brackets; foreign language symbols, arrows in all directions, playing card symbols, block graphics and curves, and even five-point stars, anchors, half-moons, Jewish stars, bells, palm trees and circles of many sizes.

Cfont lets you pick individual characters (such as the heart symbol) and assign it a font name (such as "heart.fon") and a keyboard generation symbol (such as the letter "h"). You then load "heart.fon" as a font when you print your text with Pfont, assigning it a number to correspond to the font change codes (specified as "\f1," "\f2," etc.) you've already imbedded in your text. When the

print program sees “\flh” in the text, the next character will be the heart.

I learned *Fancy Font* in a rush, and became proficient enough within three days to get out a 16-page newsletter using many of Pfont's typestyles. Several phone calls to SoftCraft answered my questions, and imbedding the *Fancy Font* codes within text while composing became as automatic as using *WordStar* commands by the end of the week.

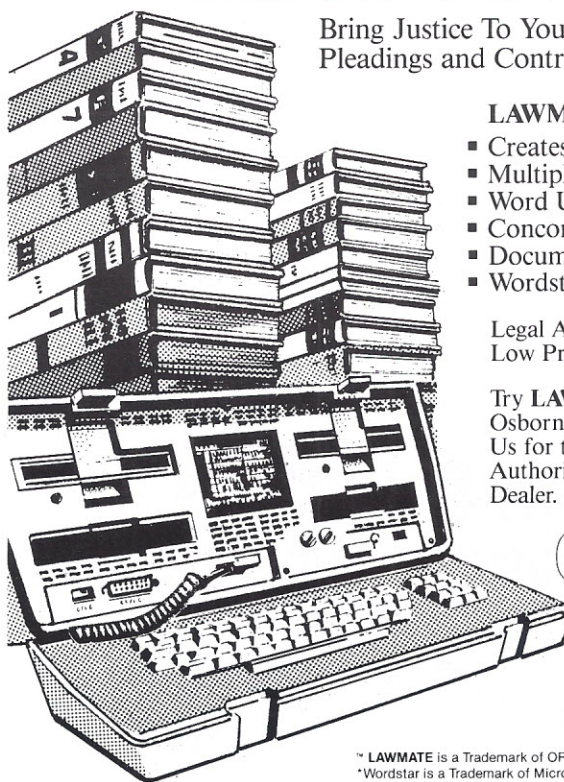
I even found some shortcuts the designers hadn't thought of, like configuring the Osborne number keys especially for *Fancy Font* on one *WordStar* working diskette. I input “\f0,” “\f1” or “\f2” in separate keys for font change indications and “\b<cr>\t” to end a paragraph without justifying the last line and tab in the next in one keystroke. I then configured a Pfont working diskette with my standard print parameters (line length, page length, indent from left edge of page, top and bottom page margins, etc.) in 0, Pfont start-up in 1, and the names of the fonts I used most frequently in other keys for loading before printing.

If my print specifications were standard for each document, I could program the whole string into one key. This cut my effort in half. The SoftCraft people have even set up parameter documents that contain their print specs to run with text documents (you can load more than one document at a time and chain print them). Also, I printed lots of fast rough drafts before I reached final copy.

A few points to remember when working with *Fancy Font*, *HexPrintR*, Custom Installed *WordStar* or other programs—make back-up copies of each program diskette, especially if keys are custom configured, and SYSGEN each one. With *Fancy Font* PIP frequently-used fonts onto diskette for loading—each font with its variations comes on its own diskette

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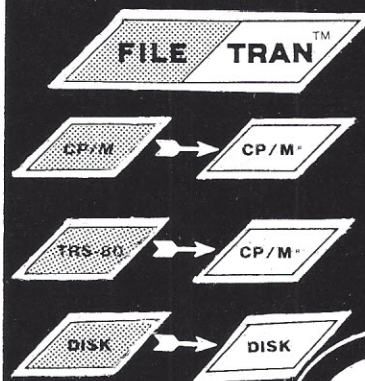
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the Processed Word

to start. Also, decide before you compose or code your document which fonts you will use; code number them and list on paper in order of importance. You will later load them into the print parameters corresponding with code numbers, so forgetting which font was coded as #1 could cause delays. This is also helpful for reprinting later.

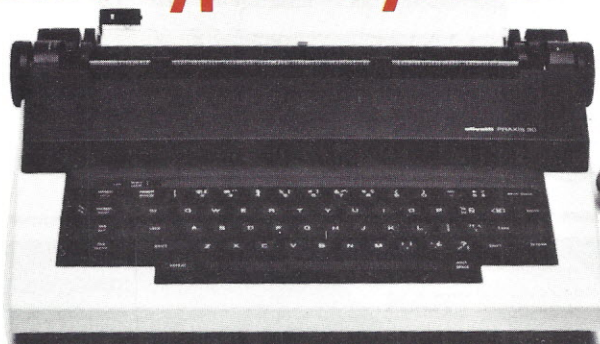
In working with *Fancy Font*, note that using boldface or italic fonts within a line may lengthen it past the right margin print parameter. This results in printed words being cut off, sometimes mid-letter. Pfont works line by line and does not move words up if a line is shorter in print than on the screen. Rough drafts, therefore, are helpful to make sure lines are not too long—or too short—which means re-editing the text to fill in the blanks yourself. This happens frequently because the proportional spacing adjusts the text differently than normal 12 pitch spacing on CRTs. Each point size is different as well. Some experimentation will teach you how many on-screen characters will fit your four-or-six inch printed line with few problems, but the manual gives suggestions for standard applications. Also, right margin justification works best on larger fonts, to avoid “rivers” of white space running through the paragraph. Ragged right margins are becoming popular in books and magazines these days, and after experimenting I will use this for my two-column newsletter pages, although justifying looks terrific on letters and proposals.

The *Fancy Font* manual is well written (and was of course printed using Pfont), but is oriented more for experienced computerists than novices. The index and introduction are good, and appendices in the back detail codes for easy reference. Soft-Craft is still small and personal enough that you can speak directly with the program designers and get fast answers, as is C.I. Software.

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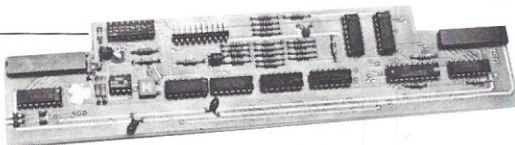
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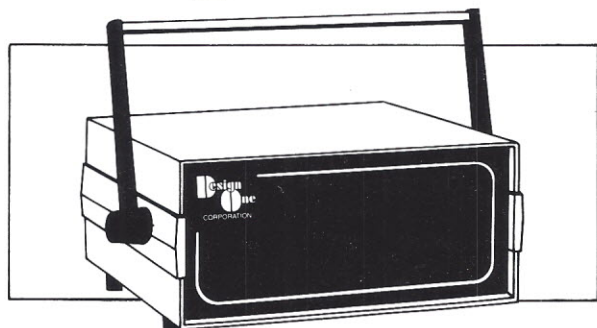
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Calc Aids

Loading part of a SuperCalc file

Walter B. Novinger

I recently watched a friend laboriously transfer values from one month's *SuperCalc* spreadsheet to the next, and realized that there was a better, less error-prone way to accomplish the task. The intention was to copy totals from one month's calculations to the "brought forward" column on the following month's spreadsheet. This article will describe a simple procedure to (almost) automate the process.

After entering the simplified spreadsheet shown in Figure 1, save it as file **TEMPLATE**. Using the **Replicate** command will save inputting all but two of the formulas. Also, use the **/Format,Global,\$** command to round the numbers off to two decimal place accuracy. (Save the template without the formulas visible—I used the **/Global,Formula**

command to toggle them ON or OFF for display and entry purposes only.)

Column **E** is the month-to-month accumulator, set off from the rest of the spreadsheet for convenience and readability. Note that each row in column **E** merely copies the value in the same row in column **C**. This may seem wasteful; we'll look at how this can be eliminated later.

To begin the first month's spreadsheet, January in our example, get into *SuperCalc* and load the **TEMPLATE** file. Then, position to cell **B1** and enter the month. Now, enter the test data shown in column **B** of Figure 2. As this is being done, note that column **E** duplicates the totals shown in column **C**. Save this spreadsheet naming it **JANUARY**.

Now, to start February's sheet, Zap the worksheet and load **TEMPLATE** again. We now want to load the values from **E6:E17** of file **JANUARY** into cells **A6:A17** in the current worksheet. To do this we'll use the **Part** option of the **Load** command.

Type the command shown in the box below.

/LJANUARY,P,E6:E17,A6,V	values only
,	Type in this comma!
A6	TO cell
V	FROM range in input file
P	load only PART of input file
E6:E17	input file from which to load values

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You will see that cells **A6:A17** now contain the values from the prior month's calculations. This is certainly easier and safer than manually transferring the data.

When the current month's data have been entered as shown in Figure 3, simply save the file and you're finished.

Final Notes

As you may have guessed, we could (in this simple example, anyway) omit column E and simply copy the values from column C of the prior month's file into column A of the current month's sheet. The command to do this would be:

/Lfilename,P,C6:C17,A6,V

I chose to use the extra column in this example to make you aware that an "accumulator" column *can* be used. The contents of this column could be gathered from several areas of the spreadsheet and centralized into one column for convenience. Of course, the distribution of the new values to the next spreadsheet would be considerably more complicated.

To make life easier, the function key capability of the Osborne 1 can be used to place the more complicated commands (using the SETUP program) into one of the numeric keys. For instance, the following sequences might prove handy for our example:

~1 /LTEMPLATE,A
~2 ,P,E6:E17,A6,V
(type /Lfilename then ~2 finish)

	A	B	C	D	E
1:MONTH:					
2:					
3:BROUGHT	CURRENT	TOTAL		M-T-M	
4:FORWARD	EXPENSES	EXPENSES		ACCUM.	
5:=====					
6:		A6+B6		C6	
7:		A7+B7		C7	
8:		A8+B8		C8	
9:		A9+B9		C9	
10:		A10+B10		C10	
11:		A11+B11		C11	
12:		A12+B12		C12	
13:		A13+B13		C13	
14:		A14+B14		C14	
15:		A15+B15		C15	

Figure 1
File TEMPLATE

	A	B	C	D	E
1:MONTH:	JANUARY 1983				
2:					
3:BROUGHT	CURRENT	TOTAL		M-T-M	
4:FORWARD	EXPENSES	EXPENSES		ACCUM.	
5:=====					
6:	125.45	125.45		125.45	
7:	75.00	75.00		75.00	
8:	986.67	986.67		986.67	
9:	45000.00	45000.00		45000.00	
10:	34.23	34.23		34.23	
11:	1795.00	1795.00		1795.00	
12:	162.60	162.60		162.60	
13:	.00	.00		.00	
14:	2406.95	2406.95		2406.95	
15:	1100.00	1100.00		1100.00	

Figure 2
File JANUARY

	A	B	C	D	E
1:MONTH:	FEBRUARY 1983				
2:					
3:BROUGHT	CURRENT	TOTAL		M-T-M	
4:FORWARD	EXPENSES	EXPENSES		ACCUM.	
5:=====					
6:	125.45	200.00	325.45	325.45	
7:	75.00	25.00	100.00	100.00	
8:	986.67	605.25	1591.92	1591.92	
9:	45000.00	8000.00	53000.00	53000.00	
10:	34.23	89.70	123.93	123.93	
11:	1795.00	.00	1795.00	1795.00	
12:	162.60	.00	162.60	162.60	
13:	.00	100.00	100.00	100.00	
14:	2406.95	1355.72	3762.67	3762.67	
15:	1100.00	90.00	1190.00	1190.00	

Figure 3
File FEBRUARY

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inside/outside Osborne

The business of cables and accessories

Kathleen J. Moon

It seems much longer than seven months ago that my friend Myron Eichen and I were discussing our personal computer systems and complaining about the poor quality, outrageous prices, and lack of information about interface cables for our printers. "Someone ought to take accessories as seriously as hardware and software manufacturers take their products," said Myron. "Why not us?" I suggested. Myron knew someone who was selling computers and we tried the idea out on him. His advice was, "If you're going to do it, do it right."

Now Myron and I had been in the electronics business for quite a while, but wanting another opinion, we shared our idea with our friend Ken Cook who had merchandising experience. Ken recommended that we "test the market." So we called a hundred computer stores across America and asked them if there was a market for interface cables. Their response was pretty specific. "Make a quality product, price it right, make it easy to do business with you, deliver our orders from stock, and we'd be interested."

With that challenge from a cross section of the market, Computer Accessories Corporation was born. We laid out a business plan and targeted Osborne, Apple, Xerox, and IBM to support with interface cabling to a broad assortment of printers. Then the hard work started.

After months of researching the I/O requirements of the computers and printers and finding sources for quality connectors and cable, we designed a catalog and devised a scheme to use international symbols for quick reference to the right cable for each combination. Computer Accessories Corporation was nearly ready for the market.

"A good cable is only half of what we need," noted Myron. So we wrote setup information for each combination so that the dealer or buyer wouldn't have to interpret the computer manual and printer manual instructions (when and if they were available). To find out if we had "done it right," an interview was arranged at Osborne Computer Corporation to preview Computer Accessories Corporation's approach. On a nervous August day, Computer Accessories' staff brought its concept of accessory support to Osborne's Hayward offices, hoping for positive criticism.

The response we received from the Osborne staff was more than we'd hoped for. We were encouraged, so we decided to break our catalog to Osborne dealers first. As word leaked out, requests came in to add other computer lines to the cable program. Computer dealers called with ideas for new products. Demonstrations of the Computer Accessories line to Computerland and the Xerox stores yielded enthusiasm, cable orders, and

more new products.

The excitement grew at Computer Accessories as we realized we successfully met the challenge given us by the marketplace. We developed a quality product that carries a five year warranty and this was made possible by careful attention to design, manufacturing and testing. We priced it right. Quality costs, but we find our cables cost less than products that are poorly designed. We've made it easy to do business with us. Our catalog offers easy cross referencing of cables, which makes it easier and faster to find what you need. Orders are shipped within 24 hours so the end user is not kept waiting. And most importantly, when technical assistance is needed, we're there to assist.

Back in May, Ken, Myron and I thought Computer Accessories might be a nice little "garage" operation in the finest entrepreneurial style. Our goals have been continually raised. Today, Computer Accessories' growing inside sales staff supports our expanding network of dealers with product and technical information and assists computer users in finding our products in their local area. Our technical design group continues to develop new products. In addition to the expanding cable line, we've developed a high resolution portable monitor line in amber and green screens, color coordinated to the Osborne computer; a power director for fingertip control of each element in the personal computer system; a video adapter for the Osborne 1; and translators allowing electronic typewriters to be utilized as letter quality printers.

We've learned a lot in these past months, but nothing more important than what we heard in the first week of listening to the marketplace: "Make a quality product, price it fairly, and above all do it right!"

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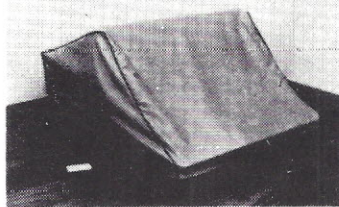


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d BASICS

Database inventory ideas

David Gute

The purpose of this article is to give beginning *dBASE II* programmers a starting point for an inventory program. A few simple concepts are described that can be tied together to develop the very basics of an inventory. It was written to be more of an educational guide and catalyst for your own personal inventory ideas rather than to provide a full-blown operating inventory program.

This inventory program uses only two short, easy-to-understand modules: **TESTINV.COMD** and **CHANGE.COMD**. They perform the following three simple tasks:

- Add to inventory (add 10 widgets to 476 widgets)
- Subtract from inventory
- Update total part cost per part type (480 gizmos @ \$2.00 per gizmo = \$960.00)

A database named **INVENTOR** (see Table 1) was first **CREATED** and saved on the B drive with fields for part number, quantity on hand, cost per part and total cost (quantity time cost per).

After entering in the data, **INDEX** this database on **PART:NO** to a file

called **INVINDEX**. The sequence will look something like this:

INDEX ON PART:NO TO B: INVINDEX
These commands are rudimentary and are explained in the manual or previous *dBASICS* articles.

Enter in the programs shown in Figures 1 and 2 by using *WordStar's* non-document mode. To run this program, boot up *dBASE II* and type **DO TESTINV**. The program listings have been briefly annotated so you can better understand how they operate.

TESTINV.COMD Instructions

- 1) Uses your **INVENTOR** database and updates the index to **INVINDEX**.
- 2) Sets a switch called 'changing' **ON**. Everything that follows the 'DO WHILE' statement (3) repeats until the switch is set **OFF**.
- 3) Everything that follows the 'DO WHILE' statement repeats until the switch is set off.
- 4) Erases the screen.
- 5) Waits for the operator to enter a

FLD	NAME	TYPE	WIDTH	DEC
001	PART:NO	C	008	000
002	ON:HAND	C	006	000
003	COST:PER	N	008	003
004	TOTAL	N	008	002

Table 1

part number, and then stores it to a memory variable called 'NUM'.

- 6) Searches for the part number equal to the number stored at 'NUM'.
- 7) A simple error checking routine. If no record with that part

number is found, an error message is displayed. The operator is given another chance to input another part number or quit.

- 8) If a valid part number is located, the operator is passed on to the CHANGE.CMD routine.

continued

```

* TESTINV.CMD
SET ESCAPE ON
SET TALK OFF
USE B:INVENTOR INDEX B:INVINDEX
*
STORE 'Y' TO changing
DO WHILE !(changing)='Y'
ERASE
?
?
?
ACCEPT 'ENTER PART NUMBER YOU WISH TO INVENTORY' TO NUM
?
?
FIND &NUM
*
IF #=&0
  ERASE
  ?
  ? 'NO SUCH PART NUMBER EXISTS. TRY AGAIN OR QUIT (T/Q)?'
  ?
  WAIT TO go
  ?
  IF !(go)='Q'
    RETURN
  ELSE
    LOOP
  ENDIF
ELSE
  ?
  ?
  ?
  ? '      1=CONTINUE'
  ? '      Q=QUIT'
  ?
  ?
  WAIT TO stock
  ?
  ?
  IF !(stock)='1'
    DO CHANGE
  ELSE
    IF !(stock)='Q'
      QUIT
    ELSE
      LOOP
    ENDIF
  ENDIF
ENDIF
ENDDO
RELEASE ALL
QUIT

```

Figure 1

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2 BASICS

CHANGE.CMD Instructions

- 9) A switch called 'continue' is set ON.
- 10) Decision block time. The operator decides to add or subtract from inventory; the value is stored in memory variable 'hold'.
- 11) Data in database fields 'ON:HAND' and 'TOTAL' are stored in memory variables 'HAND' and 'TOT' respectively. Calculations are performed on these variables later in the program.
- 12) Displays record information on the screen. For example, '@ 3,5 SAY' puts the first character on the third row and fifth column.
- 13) Stores quantity number to be added or subtracted in memory variable 'FLAG'.
- 14) This command line uses a MACRO instruction to take the character string stored in 'FLAG' and convert it to a numeric. (The ACCEPT command in *dBASE II* stores everything as a character string. Math cannot be performed on character string variables.)
- 15) Addition or subtraction routine.
- 16) 'TOTAL' and 'ON:HAND' are replaced with their new totals. The screen is drawn again for final review.
- 17) Gets rid of all the memory variables.
- 18) 'N' is replaced in memory variable 'continue' in order to exit from the routine.
- 19) As setup by the TESTINV.CMD file, the program continues to run as long as 'changing'='Y'. The program terminates if 'N' is input.
- 20) The file is closed and control is returned to the TESTINV command file.

With a little thought, you should be able to use some of the concepts behind this module and incorporate them into your own inventory

package, or use the programming principles in other *dBASE II* applications.

David Gute is a Senior Technical Sysgen Analyst at Braegen Corporation.

```

* CHANGE.CMD
SET ESCAPE ON
SET TALK OFF
STORE 'Y' TO continue
DO WHILE !(continue)='Y'
  ERASE
  ?
  ?
  ?
  ACCEPT 'ADD OR SUBTRACT FROM INVENTORY (A/S)' TO hold
  ?
  ?
  STORE ON:HAND TO HAND
  STORE TOTAL TO TOT
  ERASE
  @ 3,5 SAY 'PART NUMBER:'
  @ 3,22 SAY PART:NO
  @ 5,5 SAY 'QUANTITY ON HAND:'
  @ 5,24 SAY ON:HAND
  @ 7,5 SAY 'COST PER PART: $'
  @ 7,27 SAY COST:PER
  @ 9,5 SAY 'PART VALUE TOTAL: $'
  @ 9,26 SAY TOTAL
  ?
  ?
  ACCEPT '      HOW MANY?' TO FLAG
  ?
  STORE &FLAG TO SW
  IF !(hold)='A'
    STORE HAND + SW TO HAND
    STORE COST:PER * SW TO SW
    STORE SW + TOT TO TOT
  ELSE
    IF !(hold)='S'
      STORE HAND - SW TO HAND
      STORE COST:PER * SW TO SW
      STORE TOT - SW TO TOT
    ENDIF
  ENDIF
  REPLACE TOTAL WITH TOT
  REPLACE ON:HAND WITH HAND
  ERASE
  @ 3,5 SAY 'PART NUMBER:'
  @ 3,22 SAY PART:NO
  @ 5,5 SAY 'QUANTITY ON HAND:'
  @ 5,24 SAY ON:HAND
  @ 7,5 SAY 'COST PER PART: $'
  @ 7,27 SAY COST:PER
  @ 9,5 SAY 'PART VALUE TOTAL: $'
  @ 9,26 SAY TOTAL
  RELEASE ALL
  STORE 'N' TO continue
  ?
  ACCEPT 'WISH TO CONTINUE? (Y/N)' TO changing
  ?
ENDDO
RETURN

```

Figure 2



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Whoops

Those "whoops" you keep hearing are not cranes trying to take off, but we Osbornites trying to get the information we present to you up to date and accurate. Here's our latest effort:

MISSING IN ACTION: Many of you wondered where your third issue went. We now know: the dead letter office. It seems that labels fell off a number of issues making them undeliverable. We solved the problem by removing the cover varnish. If you received a second and fourth issue, but no third, please write to our circulation department requesting another copy.

SORRY, WRONG NUMBER: We managed to get a phone number wrong in our list of dial-up computers in *Sources* (Dec/Jan). The lady whose phone number it was let us know that *many* of you were trying to get your modem to talk to her. We've since bought her an answering machine. The correct number of the OXGATE Mountain View bulletin board is: (415) 965-4097 and *not* the number shown.

LATE UPDATE: Apparently our notice regarding the delay in the software Upgrade-Pac (*Whoops*, Dec/Jan issue) was missed by some of you. The System Software Package and subscription service have been delayed so we can insert the newest version of *WordStar* (3.4). *Assuming no further changes are necessary*, we should begin delivering update packages to dealers by this summer.

The upgrade package provides the following new features:

WordStar is upgraded to version 3.4.

- *WordStar's* new Column Block Command moves, copies, or deletes a column of text. One use of the command would be to set up "newspaper" style columns of print.
- *MailMerge's* Conditional Printing feature uses commands such as AND, OR, IF, EXCEPT, and several mathematical symbols to create variability in the selection of records or portions of text during *MailMerge*

printing. For example, you could send letters only to those people whose ZIP codes fall into a particular numeric range, or you can code for an extra paragraph to be sent to people living in a certain state.

- Two versions of *WordStar* are provided: one for 52 column and one for 80 column Osborne's.

SuperCalc is upgraded to version 1.12.

- The EXECUTE command is *SuperCalc's* newest and most powerful feature. Execute reads and performs any list of operator specified instructions saving the user from the drudgery on repeating lengthy operations.

- The SuperData Interchange (SDI) program is provided to convert *SuperCalc* files to comma separated value files or *SuperCalc* files to SuperData Format files (and vice-versa in either case).

- The SAVE command is enhanced so a partial range of cells can be saved.

- Memory-mapped video is supported, making the scrolling through a spreadsheet much faster and efficient.

- Several minor program idiosyncrasies have been corrected.

CBASIC is upgraded to version 2.38.

- Several reported problems have been corrected. Minor improvements to CBASIC's operation were made.

CP/M HELP program is upgraded to version 4.1.

- The screen updates are much faster.
- The screen displays are more informative and imaginative. The displays make use of the graphics features on the Osborne 1.

AD GOOF: The Osborne/McGraw-Hill ad appearing in the Feb/Mar issue incorrectly listed two different prices for the book *WordStar Made Easy*. The correct price is \$11.95.

DEC/JAN CALCAID: A number of our readers pointed out a problem with Manny Juan's *SuperCal-endar* article. In the article on page 92 (third column), he asks the user to /Replicate a block. This is not correct. The correct action is the /Copy command. We hope you stumbled across the answer and apologize for any frustrating hours this bugaboo may have caused you.

SMOOTHING OUT THE BUMPS: The "Smoother Scrolling" article of the first issue has seen many changes. So that you know what the current state-of-the-program is, we're including a program listing that reprints the original (corrected, of course). We'd like to thank John Roberts for his double density patches, which we were busily recreating when his version came in the mail.

Smooth Scrolling Take Two

```
;
;
;
; This file contains the locations you
; may modify to change WordStar parameters
; on the Osborne 1 computer.
;
; If assembled without changes, the file
; will create terminal drivers with smooth
; horizontal scrolling and no highlighting.
; Other options may be selected by using the
; EQU statements at the beginning of the
; file.
; All Changes are in boldface type.
;
```



```

; WSMODS.ASM UPDATED JAN 25, 1983
; Updated information is printed in BOLDFACE.
; For double density, change E5xx references to
; Elxx references: e.g. 0E506h to 0E106h
;-----
; Published by the Portable Companion, 1982
; Routines by Thom Hogan, OCC and
; Richard Frank, Sorcim
;-----
;
; DEFINITIONS
;
TRUE EQU 1
FALSE EQU NOT TRUE
;
SMOOTH EQU TRUE ;if TRUE, smooth scrolling implemented
HILITE EQU FALSE ;if TRUE, underlined video selected for hilite
WIDE EQU TRUE ;if TRUE, 128 character width set, else 80
;
CURSOR EQU 0EF5Ah ;location of cursor position in BMMRAM
IOUT EQU 0106h ;location of output routine in WordStar 2.26
ESCAPE EQU 27 ;ASCII code of ESCAPE
SCREEN EQU 0F000h ;location of Osborne screen
;
; TERMINAL PATCH AREA
;
HITE DB 248h ;origin of WordStar terminal patch area
DB 24 ;24 lines on screen
;
WID IF WIDE
DB 128 ;128 columns on screen
ENDIF
WID IF NOT WIDE
DB 80 ;80 columns on screen
ENDIF
;
CLEAD1 DB 2,ESCAPE,"" ;Cursor positioning routine
DB 0,0,0,0,0 ;Room for expansion
CLEAD2 DB 0,0,0,0,0 ;Function not used by Osborne 1
CTAIL DB 0,0,0,0,0 ;Function not used by Osborne 1
CB4FLG DB 0 ;Function not used by Osborne 1
LINOFF DB 32 ;Line offset amount
COLOFF DB 32 ;Column offset amount
ASCUR DB 0,0,0,0 ;Function not used by Osborne 1
;
UCRPOS IF SMOOTH
JMP WCUR ;Get cursor position
ENDIF
IF NOT SMOOTH
UCRPOS DB 0,0,0C9h ;Not used if terminal emulated
ENDIF
;
DW IOUT ;WordStar output routine
DB 0,0,0,0 ;Reserved bytes

```

Page 1

```

ERAEOB DB 2,ESCAPE,54h ;Erase to end of line sequence
DB 0,0,0,0 ;Room for expansion
LINDEL DB 2,ESCAPE,52h ;Delete line sequence
DB 0,0,0,0 ;Room for expansion
LININS DB 2,ESCAPE,45h ;Insert line sequence
DB 0,0,0,0,0,0 ;Room for expansion
IVON DB 2,ESCAPE,29h ;Highlighting ON sequence
DB 0,0,0,0 ;Room for expansion
IVOFF DB 2,ESCAPE,28h ;Highlighting OFF sequence
DB 0,0,0,0 ;Room for expansion
TRMINI DB 8,'O C C -1'
TRMUNI DB 8,'O C C -1'
INISUB JMP ITERM ;Initialize terminal routine
UNISUB JMP XTERM ;End of session terminal routine
USELST DB 1 ;Enable char in last position to show
DB 0,0,0 ;Reserved bytes for expansion
DELCUS DB 5 ;Delay after cursor set
DELMIS DB 3 ;Delay after other functions
;
; The following section contains the primary code which implements
; smooth scrolling on the Osborne 1. Be careful when modifying this
; section.
;
MEMAPV IF SMOOTH
DB 1 ;Use memory-mapped video
MEMADR DW SCREEN ;Screen location
ENDIF
IF NOT SMOOTH
MEMAPV DB 0 ;Use terminal drivers
MEMADR DB 0,0 ;No memory address needed
ENDIF
;
HIBIV IF HILITE
DB 80h ;Use underline
ENDIF
IF NOT HILITE
HIBIV DB 00h ;No highlighting
ENDIF
HIBCUR DB 80h ;cursor set on self
CRBLIV DB 0FFh ;blink cursor on self
ZAFACIN DW 0 ;Not needed for Osborne 1
RUBFXF DB 0 ;Not needed for Osborne 1
RUFIXER DB 0 ;Not needed for Osborne 1
;
UCNSTA IF SMOOTH
JMP 0E506h ;get console status from BIOS
UCONI JMP INCON ;get console input
UCONO JMP OUTCON ;send console output
ENDIF
IF NOT SMOOTH
UCNSTA DB 0,0,0C9h ;no special status routine
UCONI DB 0,0,0C9h ;no special input routine
UCONO DB 0,0,0C9h ;no special output routine
ENDIF

```

Page 2

```

SWIN DB 0C9h,0,0,0,0,0 ;no special before video routine
SWOUT DB 0C9h,0,0,0,0,0 ;no special after video routine
DEL1 DB 3 ;short delay
DEL2 DB 9 ;medium-short delay
DEL3 DB 25 ;medium-long delay
DEL4 DB 64 ;long delay
;
; SPECIAL ROUTINES FOR OSBORNE 1
; Not part of MicroPro patch items
;
ORG 02D6h ;origin of special patch area
;
; Initialization of terminal routine
;
ITERM MVI A,26 ;clear screen code in A
CALL UCONO ;send it
RET ;done
;
; Finalization of terminal routine
;
XTERM RET ;just get out
;
; Input from console routine
;
INCON JMP 0E509h ;get a character
MOV A,C ;put it in A where WS can use it
RET ;done
;
; Output from console routine
;
OUTCON MOV C,A ;get it in C where CP/M can use it
JMP 0E50Ch ;send it and return directly
;
; Position cursor by brute force in BMMRAM
;
WCUR LXI H,0F000h ;put screen start in HL register
DAD D ;add position of cursor in DE to HL
SHLD CURSOR ;save new cursor position
RET
;
; Special automatic scrolling routines
; These routines are coded in Z80 assembly language,
; so we'll just patch in the hex values at this point.
;
X1BB4 DB 0C5h,0D5h,0E5h,0AFh,018h,011h
X30D2 DB 0C5h,0D5h,0E5h,03Ah,01Eh,037h
DB 0D6h,02Ah,030h,001h,0AFh,0FEh
DB 04Ch,038h,002h,03Eh,04Ch,0C6h
DB 020h,032h,019h,003h,021h,016h
DB 003h,0CDh,01Bh,003h,0E1h,0D1h
DB 0C1h,0C3h,0BBh,01Bh,01Bh,053h
DB 020h,020h,000h,07Eh,0B7h,0C8h
DB 023h,0E5h,0CDh,0E2h,002h,0E1h
DB 018h,0F5h,000h,000h

```

Page 3

```

; For those who must have the code that the bytes of
; data represent, here it is:
;
; X1BB4: proc
; PUSH B I PUSH D I PUSH H
; XOR A ;reset bias
; JR :2
;
; X30D2: PUSH B I PUSH D I PUSH H
; LD A,0371Eh ;get WordStar's column
; SUB 52-10 ;see if past 42
; JRNLC :1 ;if past 42
; XOR A ;reset to far left
; :1 CMP 128-52
; JRC :2 ;if way before right edge
; LDK A,128-52
; ADD A,' ' ;position bias
; STO A,:X
; LDK HL,:S
; CALL OSTR ;output screen positioning
; POP H I POP D I POP B
; JMP 1BBBh ;back to WordStar
; :S: DB ESCAPE,'S'
; DB ' ' ;y position
; :X: DB ' ' ;x position
; DB EOS ;end of sentence
; OSTR: LD A,[hl]
; OR A
; RZ ;if EOS
; INC HL
; PUSH HL
; CALL OUTCON ;output a byte
; POP HL
; JR OSTR ;do it till done
;
; This code will assemble with Sorcim's ACT I assembler
;
;
; IF SMOOTH
; ORG 1BB4h ;input prompt/command response in WordStar
; CALL X1BB4
;
; ORG 30D2h ;input data character
; JMP X30D2
; ENDIF
;
; END
;
; Note: If smooth scrolling action is selected, the automatic
; horizontal scrolling feature should be turned off using SETUP.
;

```

Page 4

80 and 100 COLUMN VIDEO

THE RESEARCH ASSOCIATES introduces a video system as an add-on to the Osborne 1. The system will provide the versatility of an 80 or 100 column video screen format on an external monitor without loss of Osborne 1's video capabilities or speed.

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Puzzler

Thirteen hidden errors

Brad Baldwin

There are thirteen hidden problems with Manny Mogul's *MailMerge* file. How many can you find? It won't be easy, so I'll give you two hints:

1) The thirteenth error is actually an undocumented *MailMerge* bug that creates a major problem in printing Manny's individually-fed invoices. The fix is rather clever (ahem) and involved adding a dot command somewhere in the file.

2) Some of the problems can only be discovered by reading, and some only by "hands-on" use of *MailMerge*.

The lines are numbered so we can reference them, and the flag field characters were added to aid in your sleuthing. The page length was set at 33 to keep you from wasting too much printer paper in your research.

```
1 .OP <
2 .MT <
3 .MB 0 <
4 .PL 33 <
5 .DF PUZZLE.DTA M
6 .RV NAME,THEATRE,ADDR1,CITY,STATE,ZIP#,NAME2 M
7 .CS M
8 .DM &NAME& of &THEATRE& M
9 .DM &CITY&, &STATE& M
10 .DM M
11 .SV DATE, February 8, 1983 M
12 .AV " Movie title: ", MOVIE M
13 .AV " # Days shown: ", TIME M
14 .AV " Gross ticket sales: $", GROSS M
15 .AV " Payment due: $", DUE M
16 <
17 &DATE& <
18 <
19 &NAME& <
20 &THEATRE& <
21 &ADDR& <
22 &CITY&, &STATE& &ZIP#& <
23 <
24 Dear &NAME2&: <
25 <
26 Our auditors indicate that &MOVIE& was leased to <
27 you for &TIME& days and earned $&GROSS& in ticket <
28 sales. Please find enclosed a bill in the amount <
29 of $&DUE&. <
30 <
31 Sincerely, <
32 <
33 <
34 <
35 Manny Mogul <
36 Motion Picture Distributors Inc. <
37 <
38 .PA <
39 -----P
40 <
41 _ <--- cursor position when file was saved .
```

PUZZLE.DAT File

```
42 Billy Bob Bijou,Bijou Theater,1 Main St., <
43 Yahoo,CA,98765,Mr. Bijou <
44 Susan Celluloid,Swank Cinema,Inc.,5000 Deluxe <
45 Ave,Hollywood,CA,91234,Ms. Celluloid <
46 General Manager,Century Cinema,250 West St., <
47 Any Town,CA,,Dear Sir or Madam <
48 .
```

Hang onto your answers—we'll publish the solution in next month's issue.

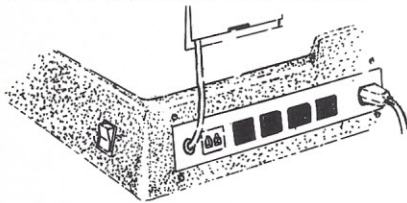
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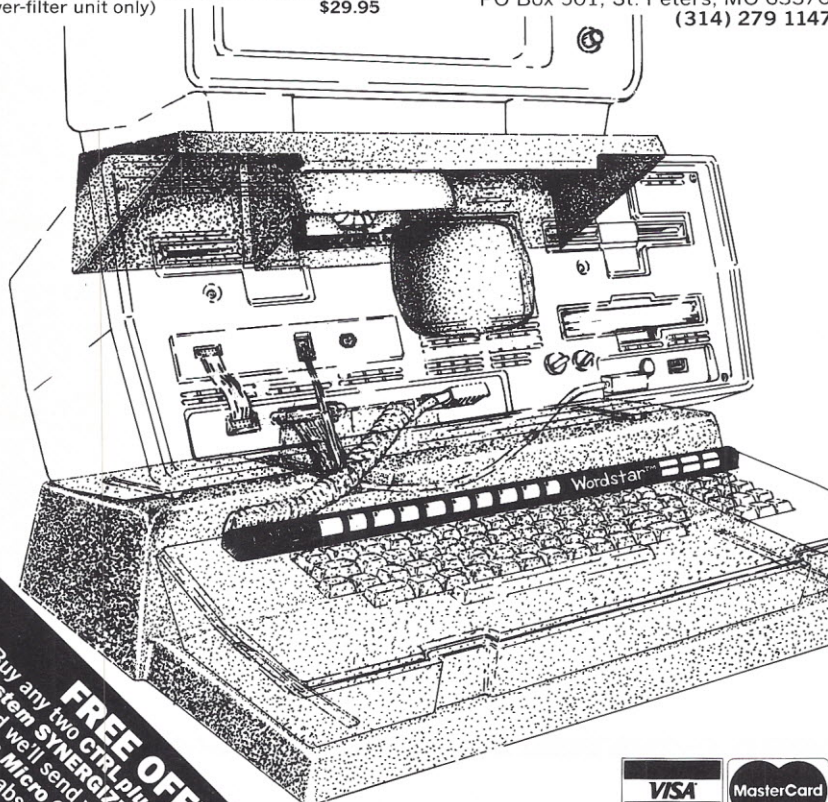
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Bottom Line	64
Business Master	12
Business Micro Products	95
C.I. Software	101
Computer Cannery	90
Continental Software	17
Cornerstone Software	23
Contact Enterprises	79
Creative Computing Products	3
Data Access	22
Data Based Solutions	108
Data Flow	86
Data Sources	10
Davong Systems	72
Dexter & McGee	93
Digital Marketing	5
Dipco	14
DiscoTech	100
Discount Software	29
DTC	7
Dynacomp	41
Easy View	91
Escon	71
F.O.G.	46
Fox & Geller	65
F.Y.I.	I.B.C.
Gamma Research	11
John Gaudio & Associates	76
ICR Futuresoft	39
Innovative Software	25
Interface Typesetting	103
Ironwood	92
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JRT Systems	1
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Lawrence Woodworks	16
Leading Edge	I.F.C.
Mega Byte	58
Micro Art Programmers	52
MicroComputers of New Orleans	29
Microhouse	19
Micro Methods	86,82
Micro Research	92
Micro Synergy	110
Micro Ventures	46
Mindware	13
Orthocode	95
Osborne Computer Corporation	73, 88, 89, 105
Portable Software	30, 31
Portable Companion	97
Pro Micro	97
Ramsoft	26
Relational Systems	98
Research Associates, The	108
R & L Research	93
Robonics	24
Rocky Mtn. Data	111
Rocky Mtn. Software	56 & 57
Scientific Technologies	111
Selectone	96
SGW	6
Softquest, Inc.	75
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Strobe	40
Sudden Software	87
Swan Software	77
Synergistic Software	103
Tanstaaf!	83
TNW	84
Transtar	2
Trantor	8
Westwind	94
Wholesale Suppliers	21

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If you encounter problems with a product, first attempt to resolve the dispute with the supplier. If you continue to have problems, please WRITE to us, describing in full what has happened and what attempts you've made to resolve the problem. While we can't promise that we'll settle the matter for you, we do regard the advertising in this publication as a service to our readers, and therefore, we do closely monitor complaints and criticisms concerning our advertisers.



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next time

Coming up in the June issue:

- * Programming the special function keys for television and film scriptwriting
- * A peek into the Hollywood scene where the Osborne 1 is cutting production budgets and increasing efficiency
- * A 3-d bar graph program
- * Answers to the most frequently-asked questions on MBASIC
- * And, a few other surprises...

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Sources

The following is a listing of some of the manufacturers of business and financial software for the Osborne format. Write to the manufacturer or distributor for a complete catalog of business programs and a list of dealers in your area. More information on business programs can be gleaned from advertisements in this magazine and other computer publications.

The Bottom Line
Elm Street
Milford, NH 03055

BusinessMaster Inc.
4317 Sea Bright Drive
Carlsbad, CA 92008

Computronics
50 N. Pascack Road
Spring Valley, NY 10977

Continental Software Co.
11223 South Hindry Avenue
Los Angeles, CA 90045

Cornerstone Software
P.O. Box 5151
San Jose, CA 95150

Dataflow
1200 S. Military Highway
P.O. Box 13205
Chesapeake, Virginia 23325

Discount Software
6520 Selma Avenue, Ste. 309
Los Angeles, CA 90028

Dynacomp, Inc.
1427 Monroe Avenue
Rochester, NY 14618

Ironwood
115 N. First Street
Minneapolis, MN 55401

Learning Shack Inc.
17981-J Sky Park Circle
Irvine, CA 92714

Micro-Art Programmers
173 Birch Avenue
Cayucos, CA 93430

Modular Tax
P.O. Box 3361
Stamford, CT 06905

Rocky Mountain Software Systems
1280-C Newell Avenue, Suite 147
Walnut Creek, CA 94596

The Software Supermart
P.O. Box 16174
Irvine, CA 92714

The Software Toolworks
14478 Glorietta Drive
Sherman Oaks, CA 91423

"Very useful and worthwhile program... remarkable efficiency... excellent documentation... 'friendly' atmosphere... search a large amount of data in a short amount of time."

— Osborne Newsletter, Aug. '82

"SUPERFILE... the most user friendly practical file management program on the off-the-shelf software market today!"

— Software Retailing Magazine, Nov. '82.



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JMM Computer Peripheral Accessories for Osborne™...

These RS232C Serial Cables are especially designed to interface the Osborne 1™ computer system to the various serial devices used in the computer industry.

The Centronics printer cable allows the use of the IEEE-488 port as a centronics conformal interface for printers. This cable is 5' long and avoids the need for a serial to parallel interface in the printer.

The IEEE-488 adaptor cable provides the standard IEEE-488 interface connection to the Osborne 1™ computer.

JMM Enterprises manufactures and distributes quality interface products for the Osborne 1™. We provide Monitors, Printers, and STROBE™ Plotters. An EXMON adapter is also available for your HP-85.

Mastercard & Visa Accepted

The EXMON external monitor adapter is designed for the Osborne 1™ computer system, and enables the use of any standard video monitor with the Osborne 1™ computer.

A coaxial type video cable is required for the high data rates transmitted by the Osborne 1™. This quality cable enhances the display.

The EXMON II is a combination package and includes the EXMO and a UHF modulator. This allows the use of television sets as monitors without "hard wire" connections to the television set.

Padded carrying case to protect and ease handling and carrying.



The KEYBOARD EXTENDER cable is intended to increase the freedom of movement for the keyboard of the Osborne 1™. This cable plugs into the Osborne 1™ keyboard connector and then the keyboard cable plugs into the other end. The standard length is 24".

Osborne 1 is a trademark of the Osborne Computer Corporation

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These products are in stock at local dealers. You may contact JMM directly for assistance. Overseas shipments are no problem.